Practical

CLINICAL PSYCHIATRY

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By

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Section on

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Dedicated to the memory of
ADOLF MEYER, M.D., LL.D., Sc.D.
Revered Dean of Psychiatry, Beloved Teacher and Friend

PREFACE TO SEVENTH EDITION

The Fifth Edition of this textbook was published in 1940, when Psychiatry was busily engaged in making its contribution to maintaining the mental health and morale of our armed forces, fighting in the world conflict. Psychiatry did make a magnificent contribution, but we had to learn the bitter lesson, that much had to be left undone because of the dearth of psychiatric personnel.

By the time the Sixth Edition was brought out in 1947, we were in an even better position to estimate the grave danger and serious threat to our national health and security, arising from shortage of trained personnel. Many authorities state that there are no less than 5,000,000 psychoneurotics in the United States who need treatment. The burden in many other clinical areas of Psychiatry—the psychoses, alcoholism, addiction (particularly to the barbiturates), epilepsy, mental defect, juvenile and adult delinquency and crime, personality disorders—each year becomes increasingly heavier. No less than one child in every twelve is destined to need psychiatric attention in adult life and many of them will require treatment in public mental hospitals.

There are many very challenging social problems. To cite only one, the shameful prevalence of divorce, it is obvious that here is a threat to the stability and security of the family, upon which depend not only the mental health of children, but also perhaps the very survival of our Western civilization and culture. Given the opportunity, Psychiatry has much to offer to the solution of this problem.

As the Seventh Edition of this book is presented, valiant efforts are being made in a few areas (notably the Veteran's Administrations and the Mental Institute of the Public Health Service) to train more physicians to become psychiatrists. A near miracle has been wrought, but the need is so great that what has been done thus far is merely a drop in the bucket, albeit a big and important drop. It takes years, at least five, and many thousands of dollars to make a competent psychiatrist. Available is a mere pittance—a very few millions of dollars compared to the many billions for military atomic projects. Not in this generation, not in many more to come, will the supply of psychiatrists even remotely approach the need.

This is one of the chief reasons why we address the Seventh Edition of this book not only to psychiatrists, but also to medical students and to our professional brethren in general practice and in every specialty and subdivision of medicine and surgery. In one way or another, *they* will treat the vast majority of psychiatric patients, particularly those who are suffering from psychoneurotic and psychosomatic disorders. They will treat such patients, satisfactorily or poorly, according to their degree of understanding and interest. We need the help of every physician if we are even to keep abreast of the enormous psychiatric needs of our age. And certainly every physician needs to learn the lessons of psychiatry, if he is to be a *complete* doctor. Approximately 60 per cent of his everyday practice will deal with patients in whom the preponderant reason for illness will not be found in tissue inflammation and destruction, but will be the clinical expression of unconscious and unsolved mental conflicts—psychopathology.

In the area of prevention, particularly in childhood, physicians, especially those who treat families, have golden opportunities. Psychiatry can now speak with assurance about a number of things significant for children. It is now known that an overwhelming amount of so-called "functional" sickness in adult life has its genesis during childhood. It is well understood, too, that much of such sickness makes its appearance because the framework of a properly mentally hygienic childhood was notably flimsy and defective. Briefly, such a framework should contain for the child from its mother and parents, much sincere expression of being wanted, protected, loved, and made emotionally secure. At the same time unselfish maternal and parental love should gradually emancipate the child emotionally, so that eventually it is prepared to stand on its own emotional feet and participate satisfactorily in the complicated personal and social relationships of everyday adult living. Only from such childhood settings can there emerge for children the greatest boon any human being can have—emotional maturity. Otherwise, there is very likely to be some degree of psychic infantilism—emotional immaturity. And emotionally immature children, all too often, are marked as potential victims later in life of psychoneurotic illness or worse. At a minimum such children will experience in their lives much dissatisfaction, insecurity, and unhappiness. There are far too few psychiatrists to secure putting into wide practice the important psychiatric preventive lessons of childhood. Psychiatrists are carrying out an excellent program of public education, but they do not have the opportunity for intimate contacts with families as are enjoyed by general practitioners, obstetricians, and pediatricians. We shall be more than repaid for the effort and labor that went into the making of this book if we can enlist the skill and interest of those physicians who, in their professional contact with parents and children, will take advantage of their opportunities to make a contribution to the attainment of the goal of prevention of neuropsychiatric disorders.

Since the publication of the previous edition there has been considerable stirring and leavening in the field of psychoanalysis. We feel that much of it has been scientifically healthy and therapeutically helpful. Many psychoanalysts have shown a definite tendency to depart from certain rigid dogmatic concepts. We presume that such modifications were dictated in part by the realistic demand for shortening the treatment time, so that more patients who are in need of analysis could be reached. Probably another factor was the desire to give psychoanalysis as wide a coverage as possible and to share its basic teaching and treatment principles with general psychiatry and medicine. In any event, we are deeply sensible of the fact that a large segment of modern psychiatric thinking is derived from psychoanalysis. We are anxious that whatever material in psychoanalysis is valid and useful be distributed as widely as possible.

The preparation of the discussion of Classification was purposely delayed for as long a time as possible. It is a good omen that such delay was necessary. For one thing it means that Classification and Nomenclature are in a state of flux, which is as it should be. It is indicative of scientific progress. Even more significantly, it means that psychiatrists are thoroughly dissatisfied with rigid and traditional pigeon-holed labeling, producing static, compartmentalized thinking. It is demanded that classification be more fluid and dynamic; more expressive of the person who is sick and less of the label given to the illness; more expressive, too, and clarifying of the particular external stresses and internal conflicts which determined the break; the degree of severity and the prognosis. In other words, there is a concerted effort to be set free from the enslavement of names.

The misuse of the word "Functional" furnishes an illustration. It is commonly employed to denote human illness in which determining pathology cannot be demonstrated in the tissue of organs and parts of the body. Functional means more than that and should have a much wider coverage. All human disease is functional, since, obviously, it involves a disturbance in the functioning of all of the man who is sick. Sometimes this mal-functioning is expressed preponderantly at the somatic level, sometimes at the psychic. Used in this way, the word "functional" and the thinking it provokes should be the basis for classification. In the section on Classification, some of these thoughts and the extant nomenclature listings will be presented.

Even though it involved considerable new material, we felt it important to include a chapter on general or "support" therapy. If, as it must be and should be, the bulk of psychoneurotic and psychosomatic patients are to be treated by general practitioners and workers in all fields of medicine, then they should have some basic ideas of the techniques they may employ. We believe that the suggestions in the chapter on Psychotherapy will be helpful.

The First Edition of "Clinical Psychiatry" was published in 1925. This Seventh Edition appears in 1951—seven editions in 26 years. Such a signal expression of confidence fills us with appreciation, pride—and humility. We earnestly hope we shall continue to merit the confidence of the medical profession.

EDWARD A. STRECKER, M.D.

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CHAPTER 1

PERSONALITY DEVELOPMENT AND FUNCTION

In any study of natural processes it is necessary to record the phenomena as observed, and to inquire into the causes of these phenomena. In the present state of knowledge in many natural sciences the fundamental or basic causes escape our fumbling researches, and we find it necessary to postulate theories from which interpretations of the phenomena may be made. The theory becomes useful if it enables one to predict with reasonable accuracy what reactions may be expected in a given situation or series of circumstances. Thus theories grow and change as the experience and experiment with the theory continue, yet the fact remains that the theory is always based on man's interpretation of the phenomena as observed in nature, and these interpretations must forever remain under the most skeptical scrutiny if we are to grow in our knowledge of the natural sciences.

The study of human function occupies much of man's attention and has resulted in much postulation, theorizing, observation, and interpretation. We, as humans, observing the behavior of our own kind are prone to accept our observations in limited experimental situations as facts with much broader significance than is warranted by the actual facts of the experiment. We are further prone to make interpretations which, after a few repetitions, we begin to regard as facts in their own right and from these draw still further wide-ranging conclusions. These conclusions we often attempt to defend, and in our search for adequate defense, make further interpretation of phenomena, and again regard the interpretation rather than the phenomenon itself as the fact. As a result of this tendency we find many theories and interpretations being defended, often at great length, as facts, and too often the interpretation of the facts, by observers of varying experience, differ radically, resulting in many "schools" or groups of thought, each defending its own doctrine as "the truth."

For the student's orientation in this confusion, we wish to follow the principle of Adolf Meyer. We will attempt to record the facts as we know them. From these facts, or phenomena, we will discuss possible interpretations using them and organizing them as they seem suited to the study of individual cases.

In the study of man as a living organism, this text will limit itself to the manifestation of life known as the mental activity and personality function of man. The living organism exhibits the phenomena to be studied and these phenomenon must therefore be considered primarily as manifestations of physiologic-chemical processes. At present we do not know how the physiochemical processes in the living organism are translated into the phenomena of mental activity and so-called personality function. According to Putnam, "There is still an enormous gap between the facts of neurophysiology and those of psychology."

In the discussion to follow we will consider first, the more important phenomena of man's functioning in his environment with discussion of possible interpretations of these facts and, second, the present status of our knowledge of the physiochemical factors accompanying these phenomena.

Before we consider man as an individual unit we must remind the student that man exists in a world filled with other humans, other types of animals, and myriad natural phenomenon, all of which influence his life to some degree. This has been discussed from factual, theoretical, and interpretative points of view by many anthropologists, sociologists, and other scientific groups. From this body of facts, interpretations, and theories, we find that man is composed of a group of atoms which in proper combination form molecules which make substances with cell formation. The cells in proper combination form tissues which in predetermined ways form organs, each contributing its own peculiar part to the effective function of the living man. In our own culture humans in combination form small groups usually referred to as families who form portions of larger groups known as tribes, neighborhoods, towns, social sets, and so forth, many of whom form larger groups known as nations. The world is at present interpreted as part of a solar system which is said to be only one of the elements of a universe. All of these elements are part of an integrated or organized system, each portion of which has some influence over the others. If a few of the cells in a man's liver "decide" to overthrow the rules by which they grow and to multiply and to pursue their own selfish desires as to direction and type of growth, insofar as their basic abilities will allow, we find the liver and then the organism show poor function. We say the man has a malignancy. Whether the cells were incited to nonconformist behavior by physiologically or chemically "unhappy or underprivileged" atoms or molecules, we do not yet know, but we do know that in their own self-seeking at the expense of their environment they bring about disintegration of the system in which they live and the price they pay for victory over their environment is death for themselves, accompanying their environment into disintegration. In another perspective, this fact produces a break in the integrity of the family with greater or less effect upon the community, depending on the position of units in the community's economy and so forth. By becoming "malignant," persons within the family may also bring about a similar series of events. In the recent past the world has experienced the agonies of radical surgery involved in removing "malignant" nations who interfered with and threatened its integration. Kennedy has stated, "Who knows but that we humans may be the blood corpuscles of the world or of God himself." The importance of socio-economic integration upon man's function and upon his health is great and the student is advised to review the facts as well as the theories and interpretations of workers in these fields.

At the moment of our conception, we represent a summary of the biologic history of mankind as represented by our own particular set of ancestors. This heritage is a fact that cannot be altered in its fundamentals. These tissue potentialities can be modified by environmental influences of various types, and this shaping and modification starts immediately in terms of the status of the maternal health, condition of the uterine mucosa, where the ovum lands in the mucosa and the numerous other factors that enter into the gestation period. The environmental influences continue to operate throughout life and in fact continue to operate after death until our final resolution into the anonymity of the surrounding earth. Thus any consideration of man must consider the items of heredity and constitution as well as the influences the environment play upon these elements. Aging and eating may change lithesome curves to loathsome bulges, yet the basic resources of the tissues remain unchanged.

In the act of being born, or beginning his independent existence, man makes one of the greatest adjustments he will ever be called upon to make. He enters the world in a most undignified and uncomfortable fashion by being forcibly ejected from the uterus where he has been nourished without the bother of eating and oxygenated without breathing; a state of security never again obtained in this life. The passageway is uncomfortably tight at best and our trip is too often assisted by hurried hands or tools of steel. We are then severed from our physiologic link to the maternal circulation and if we are to survive we must breathe. This inhalation is usually accompanied by a cry, and we find that by inhalation we fulfill a basic need which adults of certain training say satisfies us and gives us comfort or pleasure. Whatever our subjective sensations may be at the moment, the act of inspiration and expiration must be repeated at reasonably frequent intervals from that moment until our death is announced by the permanent cessation of this act. Thus our first responsibility toward ourselves becomes our most permanent one and one that we have forced upon us as the price of our first step toward an independent existence. Claude Bernard has stated, "The fixity of the internal environment is the condition of the free life," but we find that this environment must have material to work upon and soon a sensation appears, to be interpreted as hunger by adults, which is relieved by the breast or by a reasonably satisfactory rubber substitute. Later other sensations from the lower end find relief in evacuation of bowel and bladder. These sensations of internal need recur periodically and become uncomfortable and unpleasant if long ignored as they arouse an impending state of physiologic imbalance that imperils existence if allowed to persist. The satisfaction of these early needs are associated with the oral and excretory passages and the fact that their satisfaction gives pleasure of sorts is manifest by the almost universal enjoyment of eating, drinking, smoking, or chewing, and the frankly erotic sensations induced by kissing a suitable person under the proper circumstances. The more introspective student may even admit of some pleasure in an evacuation of bladder or bowel when the physiologic tension has become great.

Almost at once the environment begins to establish rules under which the needs may be satisfied. These rules vary with the age of the infant, the time in which he lives, the cultural group in which he finds himself and even the financial and social status of his family at any particular moment under discussion. One fact remains, whatever the obstacles or hardships imposed by the environment, the basic needs of the tissues must be met and the infant must work out some sort of compromise which will enable him to satisfy these drives and at the same time adapt himself to the demands of his environment.

In most cases, the needs of the infant are supplied by the same person or persons. He seems now to find added pleasure in the attention and affection which these persons bestow upon him, and soon he behaves in a manner which we usually interpret as showing a desire for love and a desire to love these persons. These first manifestations which we interpret as love are closely related to the care and comfort incident to feeding, excreting, and so forth, and this blending of feelings in relation to the various biologic functions and the emotion known as love is never completely lost.

Those phenomena in infants which we interpret as love, anger, hate, and fear must also be modified and adapted to the rules and demands of the environment. The infant finds that feeding comes at regular intervals and soon the hunger sensations appear about the time the feeding is due. He discovers that his cries may hasten the preparation, bring dry clothes, cover when cold, or comfort when in pain. This association between certain acts on his part and certain environmental responses leads to conditioning in the neurophysiologic sense. By a similar process he may learn that unscheduled crying may bring him added attention or isolation in the nursery, depending upon the parents attitude toward such behavior. The foundation for patterns of adjustment to life situations are started in this manner, one child loudly demanding attention and another getting it by smiles and adaptive behavior. Some children find it hard to establish a pattern of behavior or adaptive conditioning because their family acts in an inconsistent manner, responding to his outbursts in varied ways and making it difficult for the child to know what to expect in response to certain activity on his part. This results in much tension, confusion, and unrest in the whole situation.

As he develops he finds ever-increasing demands made upon his adaptive capacity. The breast or bottle is withdrawn and semisolid and finally solid foods substituted. The sensations previously associated with sucking are now obtained by biting and chewing, and we adults interpret the child's actions as denoting pleasure or satisfaction. It is perhaps a manifestation of the wisdom of nature that the acts that aid his graduation to a more easily obtained type of food and his cutting teeth are the source of some type of pleasurable activity which he prolongs by gnawing puppy-fashion on fist, shoe, toys or the furniture.

In our particular culture the child soon discovers he is not allowed to evacuate bowel and bladder *ad lib*. In fact he finds he is supposed to exercise these functions at certain times and in certain specified places. In our bathroom-conscious culture the place is usually a bead-festooned "toidy seat" and his use of this device at the time and place desired by the mother or nursemaid brings him added attention which seems to give him pleasure, and apparently proves to him the value of this particular product of his physiologic processes. Thus at one and the same time, he can experience a relief of physiologic tensions with the associated pleasure this brings and at the same time bring rewards in terms of praise and loving attention from his attendants. After some time, usually at three to four years, the child withholds the stool, and finds this may bring rewards in terms of added attention, bribes, and general emotional upheaval in the nursery. The child may withhold until the rewards are bid up to a satisfactory level. The child gets what we interpret as satisfaction from the retention itself, and having brought forth is at times observed using the product for finger painting of himself or the nursery. The variation in the demands of his environment, especially his parents or attendants, and the rewards and punishments forthcoming from his means of adaptation of his drives to these demands are great and appear, in the light of present knowledge, to determine long-standing differences in modes of adjustment to life situations in general.

At about one year of age, the child seems to notice that certain oral sounds are associated with feeding, excreting, love making, anger, and so forth. His attempts to reproduce these sounds, when successful, make it easier for him to make his desires known to those about him. Certain persons are associated with other sounds, and these sounds come to stand for or symbolize certain objects, acts, and desires. Once he masters a few of these simple symbols he is said to be talking.

In the beginning he uses the symbols in a general way. The entire hunger-feeding activity is often symbolized by one word such as "eat," "cookie," "milk," or some similar item. In this manner the name of his dog "Jip" becomes the symbol for all similar hairy four-legged creatures and all men folks are "daddy." At three to four years we find the child forming more specific associations to these word symbols and the symbols become very rigid. Thus "cracker" may come to mean a square salty biscuit and anyone using the term to describe a native of Georgia, or a nut-breaking device, will be incomprehensible to the child. With further experience the child finds that many words have several meanings and his concept of the word broadens and symbolizes more than one thing. He finds that the meaning of a word, intended by the speaker, varies in terms of the situation in which it is used.

This final step in the management of word symbols is a confusing and difficult one for children and is not fully achieved until the eight to ten year level. Some persons, unfortunately, never fully grasp or understand that a speaker or writer uses a word in terms of his own experience with the word and with knowledge of the situation, as understood by himself. The person who hears or reads the material interprets what is said in terms of his own experience with the words and his own concept of the situation in which it is used. This often results in complete or partial misunderstandings. The child's first efforts at speech are made with what seems to be little or no appreciation of the fact that his meaning may not be clear to his audience. He understands and seems to assume that they also understand. This phase is sometimes referred to as "egocentric" speech and is probably our best example of the verbalization of thought. As he develops he recognizes the necessity for making his meaning clear to his audience or socializing his speech, but at play he will continue to indulge in speech for himself alone, until eight to twelve years during which time it gradually becomes subvocal and assumes the adult form of thinking.

The emotional manifestations of a child also go through a period of change and adaptation to the environment. In infancy we see all-out reactions usually expressed in terms of physiologic needs and with no obvious attempt to regulate the degree of the outburst to the urgency of the situation in which the pain occurs and if repeated the child will show activity, which we interpret as apprehension and anxiety, when confronted with a similar situation even though the pain has not yet occurred. The avoidance of the radiator after painful experience with it, even though the heat be turned off, is a common example in our culture. In a similar manner, he learns that cooing, smiling, and certain tricks bring forth prizes of various sorts. He may learn that nocturnal yelling or crying brings no reward and he gives this up as the effort and trouble he goes to brings no dividend. If his lonesome cries bring a reward in terms of attention, they will be repeated, and many parents take unwanted nocturnal walks in the nursery because they have failed to learn, for various reasons, that infants are not above getting as much as they can from the environment in terms of pleasure or other rewards.

As the child grows, he begins to manifest curiosity about his genital organs. Digital explorations and prolonged stimulation on the hobby horse or stair banister seem pleasurable and are repeated. Performed openly at first they become surreptitious and the source of mixed pleasure and shame only after parents or grandmother have expressed disapproval or horror at the act. Threats of bodily mutilation may impress the child and questions concerning loss of various extremities are common at this age. The curiosity concerning their own body leads to comparison with the structure of siblings or playmates. Finding that girls lack a penis is supposed to cause considerable anxiety at this time, because the child fears either that it has been or will be mutilated, and this anxiety has been dubbed "castration anxiety" by the psychoanalysts. At about the same time children may be observed to show a difference in their display of affection for their parents and siblings. They demand increased affection from the parent of the opposite sex, and may be observed competing with the other parent and the siblings for this attention. Displays of affection between parents are met with demands for attention, or openly aggressive acts against the rivals. This change in feeling with mixed feelings toward the members of the family has been interpreted by the psychoanalysts as indicating the projecting out of sexual strivings to the parents of the opposite sex. At the same time the parent of the same sex is regarded as a rival and as such is looked upon with mixed hatred and fear, and yet still loved to some extent. This situation, as interpreted, is referred to as the edipal situation or "Edipus complex."

This directing of affection and attention from one's own body to the surrounding world is soon followed by an expansion of interests. Children become interested in playing in groups, in attending school, parties, and other forms of childish social life. The emphasis in our culture is toward association with members of their own sex, but this is no longer true to the extent it was 10 to 15 years ago in United States culture. This period has been called the "latency period" because most children display little activity that could be interpreted as heterosexual in nature, although one might make certain homosexual interpretations of certain phases of juvenile activity in these years. With puberty we see the child displaying frank adult sexual interest. Sex tension mounts and in our culture is offered no release except masturbation, nocturnal emissions and auto-seat skirmishing. Even these acts are surrounded with so much social disapproval, superstition, and misinformation that they become more worry and tension producing than tension relieving in the ultimate result for the adolescent.

The child has shown varieties of activity which we interpret as emotion. The student is familiar with anger, fear, sadness, and happiness as subjective phenomenon. In spite of this familiarity they are difficult to define, and like the odor of the goat, once experienced they are easily recognized and yet they defy adequate description. In one sense an emotion may be said to represent an attitude or thought, or subjective or inner experience concerning some external object or phenomenon which we invest with feeling or energy, this feeling being accompanied by physiologic alterations due to the concomitant activity of the autonomic nervous system.

The physiology of the emotions has been studied extensively in animals and to some extent in man. The subjective experience or mental phase has been studied extensively in man. Ingenuous attempts to study the mental phase in animals have been made (Gantt, Masserman, Anderson, and Parmenter), but interpretation of animal activity and its translation into terms describing human emotional experience is fraught with difficulty and the ever-present danger of regarding interpretations of phenomenon as facts in their own right.

In infancy the child displays phenomena we interpret as emotional in terms of external situations or internal needs. As his experiences become more extensive we see the phenomenon being reproduced by environmental events which suggest renewed contact with similar situations. An example is the child who having been inoculated on one trip to the physician's office, begins to cry when he sees the physician on subsequent visits, without first determining whether or not painful procedures are planned. As he grows older further broadening of experience will enable him to show external behavior appropriate to the planned procedures, but he will probably never completely overcome a certain degree of apprehension and uncertainty when approaching his physician's office and a feeling of relief when dismissed. In all instances our subjective feeling about things or our emotions are invested with energy or drive. Many workers believe that emotions are produced by situations which either facilitate or oppose the instinctual urges. At any rate the energy or drive created is either expended upon the primary objective of the drive or some suitable substitute, in an appropriate manner, or it is denied or "frustrated." In the latter event the energy expresses itself in physiologic tension which may accumulate to the explosion point or it may sputter out along the network of the autonomics. An example would be the soldier who develops hatred for a domineering company commander. He may hit the officer but probably he will not do this. His tension may accumulate until he goes A.W.O.L. and gets drunk, or it may be expressed in heroic acts against the enemy, or it may be expressed with diarrhea and disgust with the entire Army.

In psychiatry, we speak of "feeling tone" or "affect" in relation to the emotions. Affect is a quantitative term and is used to express the person's emotional capacity and the degree of his reaction to given situations. For example, one person may react to the death of a loved one with silent grief and a "carry on" attitude, his brother might be affected differently and weep, become retarded and even develop a reactive depression, while the schizophrenic sister shows a dissociated affect and seemingly regards the death as a good joke on the victim.

The term "mood" is also used in psychiatry and is also closely related to emotion. The difference here is that mood is a purely subjective term, and generally is used to describe a more prolonged state of feeling in which the person is not entirely aware of the object toward which the energy of the mood is directed. For example, you may get angry at your roommate, but this anger expresses itself in some manner and emotion subsides. Throughout the same day you may have a general feeling of well-being and of everything being fine without being aware of just what fact or circumstance causes these feelings, and your mood is said to be euphoric. The mood is probably determined by some event or thought of the past to which you are conditioned, and something in the day's activity determines your mood through this old conditioning process. A simple example is the nostalgic and amorous mood certain odors or certain musical selections may engender if they have been a pleasant part of your earlier conditioning. In understanding these phenomenon one must recall the early comments on thinking. In the adult the person's concept of a total situation is the important factor in determining his emotional reaction. One thinks of the "Virginian's" advice to "smile when you call me that" to those persons wishing to make disparaging remarks about his ancestors.

The infant as well as the adult is aware of the environment by means of the sensory receptors of the body. This awareness is commonly referred to as "consciousness." During infancy and early childhood there seems to be some difficulty in separating the concepts of self and surroundings and we observe children referring to themselves in the second and third person. At about three to four years the memory function and language function achieve a level which enables the person to clearly distinguish between that which is himself and that which is of the environment. This awareness of self is commonly called "ego-reference." As an example a person may speak of "my toothache" with ego-reference or of "the toothache" without making a personal connection. This consciousness of self is an ever-changing, fleeting thing which Allport has likened to a "pencil point of light" flickering over life experiences. The ideas, concepts, emotions, attitudes, and so forth of any person at any particular moment are influenced by past experiences. Some of these past events are available on call, we become "conscious of it" when and if we choose, and we say "I remember." Other material is not so easily recalled, and only with effort or prompting does the skeleton outline appear. At times the recollections are factual and at others they are as we wish they were. Nietzsche (rather freely translated) has stated, "That's what I have done, so says my memory. I could not have done that, so says my pride, and gradually my memory gives in." This almost forgotten material, that can be recalled only by a process of association and the promptings they bring has been referred to as the unconscious. The analytic schools teach that much of this material is forced out of mind or "repressed" because it conflicts with the person's sense of fitness of things, and threatens his efficient functioning as a person. Whether or not the student accepts this idea of active forgetting, the fact remains that this material of the past has important influences on our total behavior. For example your preference for blondes over brunettes, and for a particular blonde over all others is determined by factors or experiences that have accumulated in that repository we refer to as our unconscious. The more important the event and the more closely it is bound up with the instinctual strivings the more important it will be so far as future behavior is concerned.

In certain pathologic states we find a disturbance of consciousness in varying ways which will be discussed in later sections. We see one interesting type of partial disturbance of consciousness of self in persons who identify themselves with a parent, a friend, or some highly esteemed person. Women's constant attempts to emulate the hair droop or breast and bottom profile of currently famous beauties is one ever present example in American culture.

Memory is a function closely related to consciousness, and to the functions of thinking and speech. The memory process consists of several steps. First the stimuli from the environment are received or we become aware of them. Then by association a concept of the stimuli is formed and this concept is retained. Later the concept is reproduced, usually the associations of the concept facilitate the reproduction. Humans seldom recall events occurring prior to the third year, probably because the language function is not sufficiently developed to permit the formation of adequate concepts of any associations with the stimulus.

Memory is dependent upon a healthy, functioning brain, and cortical defects or injury impair the memory function. The intensity of the original stimulus is also of importance in facilitating memory. If the intensity be great, and the associations many, or the emotional significance great, reproduction is greatly facilitated. On the other hand events that are too painful or too heavily charged with emotion may be pushed out of memory or "repressed." In memory the time factor is important and must be evaluated. Events highly charged with emotion may be clearly recalled after a long period of time, while trivial events are forgotten in a short time. In all instances it must be remembered that the reproduction of things remembered is dependent upon concepts or the individual's interpretation and understanding of the original phenomenon. This may vary slightly from person to person. A good example of this is the spreading of rumor or gossip. Each person who hears a statement interprets the facts as he understands them, and this will vary in terms of his past experiences, beliefs, prejudices, and so forth. This person then repeats his interpretation of the original phenomenon, explaining it in his own way in an effort to make his concept clear to his listener. This third person forms his own concept of what number two means, and after the original material makes a few such transitions it is barely recognizable as the first fact or phenomenon.

The development of the highly integrated culture in which we live is apparently dependent upon the possession of a better developed central nervous system. At least this nervous system enables us to develop certain facilities not possessed by the so-called lower animals. Cicero (as translated by Gordon Allport) says: "Nature, then, has generated and fashioned man's body in such a way that some parts of it were perfect at birth, others were formed as age increased, without much use of external and adventitious aids. Now in other respects she made the mind as perfect as the body, endowing it with sense capable of perceiving things, so that little or no assistance of any sort was needed to supplement them. But that faculty which is highest and most excellent in man she left lacking . . . she furnished the rudiments; nothing more." Lin Yutang expresses it in a more popular way: "Our mind was originally an organ for sensing danger and preserving life. That this mind eventually came to appreciate logic and correct mathematical equation I consider a mere accident. Certainly it was not created for that purpose. It was created for sniffing food, and if after sniffing food it can also sniff an abstract mathematical formula, that's all to the good." The phenomenon discussed in the preceding sections are parts of the phenomenon known as personality development and function. As previously stated, these "higher functions" must have their basis in physiology, but the how of these processes is not completely understood at this time. Some of the facts as in light of present knowledge will be discussed in the following section.

The possession of an intact, healthy brain is essential for optimum mental functioning. The effects of disease, injury, drugs, and deficient blood supply on the structure are well known and the secondary effects upon mental processes have been extensively studied. In spite of this, much of man's activity, thinking, and so forth, cannot be correlated with specific alterations in the brain or other body structures. In spite of this gap in our knowledge there can be little doubt that function must be dependent upon structure. Freud has expressed it, "Because of the essential unity of the two things that we divide into somatic and psychic, one may prophesy that the day will come when the avenue from biology and chemistry to the phenomenon of neurosis will be open for our understanding and we hope also for therapy." Stanley Cobb also insists on the unity of structure and function, "In spite of the fact that handedness is inherited, and therefore dependent upon the structure of the genes, no difference can be seen between the right and left hemispheres of the brain. Grossly and microscopically, nothing significant has ever been found to distinguish the dominant from the secondary hemisphere." . . . "If the reader insists on classification (as of 1943), the difference is probably chemical rather than histological. To say that the trouble is 'functional' is just as stupid in this connection as in others. There can be no function without a structure behind it, and function is not inheritable." Sherrington states: "Inside the animal's form sits the brain, its work broadly to increase the animal's grip on the world about it, and hardly less the grip of the external world upon the animal." . . . "But the dominant partner in the driving of the brain is the outside world in commerce with the animal." All of these quotations serve to emphasize the "oneness" of living function and the interdependence of structure and environment in determining the individual's reaction to any situation. With these facts firmly in mind we wish to consider some phenomena observed in the laboratory on the influence of physio-chemical alterations on behavior.

The importance of adequate regulation of the chemical environment of the brain has been emphasized by Barcroft, " . . . it is evident that the higher faculties need a higher tension oxygen supply than those of a more vegetative nature." (Discussion based on study of sheep at birth.) . . . "We have therefore arrived at the point where we can say not only that the form of life —man—which has developed in intellectual power far beyond any other, is that in which the constitution of the fluids that bathe his cells is most exactly regulated; but also that the most immediate effect of interference with the chemical or physical properties of the blood is impairment of the higher qualities of the brain." The brain is one of the greatest users of oxygen in our body, using in excess of 4000 cu. mm. per Gm. of brain per hour. To insure this supply, the blood flow must average 1400 cc. per minute or 100 cc. per 100 Gm. of brain per minute. To insure this supply of blood the brain receives, at rest, 33 per cent of the output of the left ventricle although it represents only 2 per cent of the body weight. The importance of this blood supply and oxygen supply is clinically manifest in a variety of ways. Interference with the blood supply to the brain either through heart failure or sclerosis of the vessels with decreased flow will produce confusion and generally impaired intellectual function. Acute arrest of cerebral circulation produces unconsciousness in a few seconds. The "blackouts" experienced by combat pilots are due to the sudden interference of cerebral blood flow caused by the pull-outs at high speeds. That oxygen deprivation is an important feature in the production of symptoms from this lack of blood flow is shown by numerous experiments and clinic examples. The most familiar in this era are the many observations on decreased mental efficiency in any field of activity when the oxygen concentration of the environment drops below certain critical levels or below certain pressures. These phenomena have a fundamental importance in high altitude flying, but are of general medical importance as they stress the need of insuring the brain an adequate oxygen supply at all times. In the hospital patients with pneumonia or other respiratory illness must be assured an adequate oxygen supply if they are to avoid intellectual dysfunction, confusion, or delirium. Prolonged interference with an adequate oxygen supply is productive of permanent change in the structure of the nervous system. Oxygen deprivation produces alterations in the electroencephalogram. That this alteration is accompanied by changes in function is indicated by experiments with flicker tests by Gellhorn and Hailman. "It is shown that conditions of anoxia leading to a decline in CFF are accompanied by typical anoxic changes in the brain as demonstrated by the E.E.G. Degrees of anoxia which do not alter the CFF significantly have no effect on the E.E.G. The experiments suggest that the subjective changes in visual functions observed in anoxia are not due to ill-defined psychic factors such as lack of attention or lack of coöperation but are due to an actual impairment of the neurones of the retina-geniculate-striate system." McFarland reports increased performance in "neurasthenic" patients tested in high oxygen concentrations, and poor performance when tested at low concentrations. He found that 50 per cent oxygen inhalation produced a fall in the blood alcohol level of intoxicated subjects, and that they rapidly sobered. Low oxygen concentrations in pressure chamber experiments produced opposite effects.

There are many experiments which show that glucose in adequate concentration is essential for efficient functioning of the brain. Hypoglycemia of sufficient degree will invariably produce impaired function of the brain and if prolonged or of severe degree will produce confusion, convulsions, and psychotic phenomenon. Davis demonstrated that the E.E.G. shows a slower rhythm as the blood sugar level falls, and the rhythm returns to normal as the blood sugar level becomes normal.

In a reverse fashion central nervous system (C.N.S.) stimulants facilitate mental processes. Bloomberg reports that subjects taking amphetamine sulfate make better scores in mental tests, and show quickening of intellectual processes. The subjects also experience a lessening of fatigue and a general sense of euphoria or well being.

The effect of focal lesions on intellectual functioning has received much attention from experimenters in both the laboratory and clinic. It is a well-known clinical fact that disease, trauma or atrophy of the brain produces profound changes in the intellectual processes. Attempts to localize certain functions in certain specific areas of the brain have, for the most part, been unsuccessful. Putnam has stated, "There is unquestionably some degree of special representation of certain behavior patterns in the brain. On the other hand, the brain, unquestionably, acts as a unit, in the sense that it consists of a network of neurons so that every part of it has some connection with, and presumably some dependence upon, every other part." In discussing the above paper Goldstein says: "If we mean by the mosaic theory that every part of the cortex contributes something different to the performances which in themselves are related to the functioning of the whole cortex, even the whole organism, then it is correct." . . . "There are no isolated performances which are merely expressions of the function of single parts of the organism, especially not of a separate part of the brain cortex." Older views that portions of the frontal lobes represent "silent areas" and are expendable, are untenable in view of the above opinions. Conclusive evidence that "silent areas" exist only as deficiencies in examination methods and not in human function has been furnished by Ward Halstead and his co-workers. They have shown that more skillful examination methods will demonstrate defective function in small cortical lesions in almost any location.

The emotional reactions are undoubtedly "total organism" reactions with participation of all body systems in their expression. They are generally assumed to be under the control of the central nervous system. Gellhorn expresses it, "These observations (on electrical stimulation of the hypothalamus), obviously indicate that those somatic and autonomic responses, which are the overt signs of emotional display, are integrated in the hypothalamus." He quotes Haskovec and Nathan to the effect that the hypothalamus produces the somatic patterns which accompany emotion but do not produce the emotion itself. Alpers presents a slightly different view: "In this sense then the hypothalamus may be regarded as a group of nuclei concerned with the expression of emotional reactions. These are ordinarily controlled by the cerebral cortex which exercises an inhibitory influence over such reactions."

The cerebral cortex is the governing or controlling link between emotional experience with the environment and the autonomic system. Fulton has expressed it: "These considerations make it evident that the cerebral cortex governs not only the somatic system, but all the systems involved in emotional expression, psychological tensions, fears and phobias, and so forth. This means that the cerebral cortex may 'drive' the heart, the gut, and other visceral organs; thus there is a sound physiological basis for the long-recognized association between mental activity and visceral processes." Miller has compared the cortical function to a rheostat which determines and regulates the proper shade and degree of emotional expression to be manifest in terms of a given situation.

The role of the central nervous system in the total reaction of the organism to events is to increase the number of associations possible. This has been called "long-circulating" by Fulton. Cobb has described this function well: "It is the mechanism that allows for an enormous increase in association; it gives higher integration and leads to delayed action. This process of spread is essential for coördination. Its acme is found in the cerebral cortex where stimuli arriving at one receiving station (e.g. the visual 'center'), spread in innumerable directions to many other cortical areas, awakening associations, habitual responses, memories." . . . "The longest way round would seem to be just what is needed to cause a delay in response, probably a most necessary and useful mental process, for while delay persists the spreading impulses are making more and more contacts, they are arousing more and more associations. This allows the past experience of the individual to affect his behavior, and if there is any distinction between man and 'lower' mammals, it would seem to be this: adult man usually looks ahead and acts in the light of past experience. . . . "

The attempts to understand, in physiologic terms, the phenomenon of man or animal behavior in various situations of living has led to many ingenuous experiments and interpretations. Goldstein has made many conclusions from observation of humans suffering from neurologic lesions and from animal experiments. He has repeatedly stressed the total function of the organism. "It has been found that, even in cases of circumscribed cortical damage, the disturbances are scarcely ever confined to a single field of performance." He also stresses the fact that behavior either "normal" or "abnormal" is an attempt to satisfy certain needs or desires of the animal. " . . . we forget that normal as well as abnormal reactions ('symptoms') are only expressions of the organisms' attempt to deal with certain demands of the environment." . . . "Symptoms are answers, given by the modified organism, to definite demands." . . . "A defective organism achieves ordered behavior only by a shrinkage of its environment in proportion to the defect." In commenting on behavior sources: "From whence comes the direction in the activity of the organism." "1. The direction is effected through a specific environment in which the organism lives. 2. It is effected through a certain determination and force issuing from the organism itself." . . . "This tendency to actualize its nature, to actualize 'itself,' is the basic drive, the only drive by which the life of the organism is determined." He then continues his discussion by asking, "Toward what are the drives driving?" . . . " 'Catastrophic' situations are favored by abnormal tensions in any field. The sick organism tends especially to remove abnormal 'tensions' and seems to be governed by the drive to do that." "For example, the sick, suffering from a tension in the sex sphere, seem to be forced, above all, to release this tension. From such observation arose the idea that it is the real goal of all drives to alleviate and to discharge the tension, and to bring the organism into a state of non-tension, i.e., it is the goal of the drive to release itself." . . . "Normal behavior corresponds to a continual change of tension, of such a kind that over and again that state of tension is reached which enables and impels the organism to actualize itself in further activities, according to its nature."

"Thus, experiences with patients teach us that we have to assume only one drive, the drive of self-actualization, and that the goal of the drive is not a discharge of tension."

Masserman has conducted many experiments on hypothalamic function and upon experimental neuroses in animals. He also makes certain interpretations of human behavior, based upon the phenomenon observed in the experimental situation. He bases his interpretations upon his experience and training in the fields of psychobiology and psychoanalysis. He has proposed four fundamental principles of behavior. "1. Behavior is motivated by the biologic needs of the organism. 2. Behavior is contingent upon and adaptive to meanings of the 'objective' and social environment, as interpreted by the individual organism. 3. Behavior relieves bodily tensions not only by direct, but also by substitutive or symbolic activity. 4. When psychobiologic motivations or environmental meanings become excessively confused or conflictful, behavior correspondingly becomes abnormally indecisive, substitutive, diffusely symbolic, and biologically inefficient, i.e., 'neurotic' or 'psychotic' in expression." On motivation, he enlarges: "Just as we, as humans, behave more or less complexly to secure consummation of our needs (pleasure) and to avoid psychobiologic tensions (pain), so a dog reacts to a so-called 'conditioning' situation only when he is fed, petted, hurt, or given some other reason to be motivationally interested in the procedure."

Pavlov culminated his studies on conditioned reflexes by attempting to interpret certain types of abnormal human behavior in terms of conditioned reflexes. These interpretations offer nothing constructive to our present concepts of these pathologic entities. For example: "After all the above cases, one can hardly doubt that schizophrenia in certain variations and phases actually represent chronic hypnosis." He later speaks of sleep as a complete "inhibition" and hypnotism as "partial sleep." One cannot doubt the great importance of conditioning experiences in determining what particular type of adaptive behavior the organism will show in a given situation, but the conditioning experiences are not of themselves "prime movers" or motivators but are rather previously prepared and familiar paths by which a particular organism travels to a desired goal. Anderson and Liddell commented: "It seems to us that the essential feature of the technique of establishing a conditioned reflex is that it suppresses spontaneous activity through habituation." They noted that animals in a maze test may solve this problem by "extra locomotion." This has an interesting analogy in human behavior where people may achieve their biologic needs through extra effort to overcome their own deficient capacities or unusual demands of the environment. When the extra effort results in successful achievement of the goal the individual is satisfied, but if it fails the reaction is often more severe because of the extra energy that went into the attempt.

The laboratory data, as interpreted by various workers, may be summarized as showing that much of animal behavior is motivated by the wish to satisfy certain physiologic needs of the body. Interference with these satisfactions produce certain tensions with concomitant changes in the autonomic-hormonal system. These changes are carried out by means of the hypothalamic nuclei. Humans, as animals, follow the same types of behavior modified in terms of the better developed nervous system. The motivations received from a particular environmental demand will vary somewhat with individuals in terms of their previous experience and tissue needs of the moment. Whether or not a person will adjust to a situation will depend upon his ability to satisfy his needs, either directly or symbolically, in terms of the opportunities and handicaps offered by the environment. The necessity of making unsatisfying compromises in too many situations will result in maladjustment and a "neurosis" or a "psychosis." Thus maladjustment or symptoms come as a result of the individual attempting to satisfy these basic needs in the face of shortcomings in his own capacity or experience or in excessive difficulties offered by the environment.

The individual's capacity to achieve satisfaction from his environment may be altered by structural damage to some part of the body, by toxic influences due to poisons or disease, or by accumulated faulty habits of reaction. In this instance the person cannot adjust to ordinary environmental conditions and he will need a specially prepared and protected environment pending his recovery. Other persons are confronted by environmental situations that offer very little opportunity for satisfactory living. In these cases the environment must be manipulated or the person must put forth unusual efforts to achieve his needs in the face of the difficult situation.

From these preliminary observations concerning the developmental structure of the human personality, it is a long step to the personality as it appears to the student of psychiatry. At least one may say that any given cross section of any personality is the result of the constant previous interplay and interreaction between individual and environment. Somewhat dramatically, but still authentically, the student might think of human personality at a given cross section of an individual's life as a composite but exact record of everything that has happened in the life of the person. Furthermore, human personality is more than this since the foundation layer of its structure is derived from inheritance. Very rapidly during childhood and then, as the span of life lengthens, more slowly, there are innumerable additions, some of which eventuate as physical characteristics (habitus); intelligence, emotional traits including enthusiasms in constructive directions, but also bias, prejudices and intolerances, habits, interests, hobbies, drives and tendencies, energy, vocational and avocational pursuits, social adaptabilities and many other things. It is obvious, of course, that sex, in its larger implications and connotations, occupies a significant place in the personality.

Psychopathology. The following pages are included for the student who is interested in more details of the psychologic structure of the mind and interested in more detailed psychopathology. In understanding human function it is necessary to begin with some basic fundamentals. The phenomenon known as life is characterized by production of energy. It is essential for this energy production that oxygen, water, and food be assimilated and worn out or injured tissues replaced, so that a person at any one particular time is an integrated mass of chemical processes. The urge to provide the body with these basic materials is usually referred to as the basic drives, primitive drives, or instincts. These drives have their origin in the tissues and assure the body the fundamentals needed for life and for procreation. As man becomes civilized, the genital strivings and the strivings for shelter and food begin to take on secondary elaborations which become so important to the individual that they have almost the force of the basic urges. In the human animal the psychologic needs are undoubtedly as basic and almost as essential as the ingestion of air, food, and water, or the production of offspring. The discussion of instinct psychology has undergone many changes in the past hundred years, but at present the majority of practicing psychiatrists base most of their psychologic interpretations on the Freudian concepts. Even within the Freudian school there have been some minor differences of opinion as to which strivings are basic or fundamental and which are secondarily induced by the environment in which the patient lives. For a textbook of this type such arguments are academic, and the ones presented will be those that many psychoanalysts accept. The student is invited to read the very extensive literature on the subject and form his own conclusions.

In the beginning Freud felt that the basic drive of human beings was the drive for love and affection, which he dubbed the "sexual instincts." The study of this drive and its vicissitudes has been responsible for the greater portion of the present understanding of the psychodynamics of human behavior. Freud believed that there was in operation coincidentally with the sexual strivings certain ego instincts, or strivings for security and self-protection.

Further investigation led Freud to believe that the so-called sexual strivings and the ego strivings were facets of one and the same basic drive which is usually referred to in the literature as "Eros." He then taught that opposed to this drive there are hostile or aggressive urges, which if directed outward are called hate and when turned upon one's self are called the death instinct, referred to as "Thantos." Freud finally came to believe that these two forces "Eros" and "Thantos" were opposed one to the other and that the proper balance between these two strivings was the desirable thing in the psychologic development of the patient. Some analysts have taken exception to the concept of the death instinct feeling that the aggressive urges are brought about by frustration of the ego and sexual drives and are not basic or primary in their own right. Irrespective of whether they are basic or primary, the practitioner will best understand his patients if he recognizes that every human being has needs for love, affection, and a sense of belonging to the particular group with which he identifies himself. He will also note that in all of his patients there are certain aggressive strivings which may be great or may be small in individual cases but such hostility is present in all patients that he sees. In every patient certain of these urges are directed inward and every person's behavior shows some self-destructive trends.

In attempting to describe the function of the personality, Freud divided it into artifical groups based on observable functions. Those aspects of the personality which were manifestations of the basic instinctual strivings or drives Freud categorized as the "id functions."

Those portions of the personality which had to do with the self-adaptive tendencies of the individual he described as the "ego functions." The function of the ego is to find satisfaction for the basic needs of the organism in the environment in which it finds itself. The ego adapts the instinctual strivings to the culture in which the person finds himself, by providing satisfaction for the drives, or if this is not acceptable to the environment or if suitable objects are not available in the environment, to work out suitable substitutes.

The super-ego is the term Freud used for that portion of the personality made up of the rules, taboos, and cultural regulations placed upon the individual by his family and by the environment in which he lives. It is, in effect, a person's code of ethics. Through the years of development much of the basic material making up the super-ego becomes unconscious and a person may have feelings that things are right or wrong, proper or improper, without knowing their exact origin.

The interplay of these three functions, as the organism attempts to exist satisfactorily in the culture in which it finds itself, explains most of human behavior. As a person develops, some of the id strivings fail to meet with the approval of the super-ego and it becomes necessary for the ego to abolish certain ideas and urges from consciousness in order that appropriate substitute gratifications can be brought about. This process of pushing things out of consciousness is known as repression. The material repressed continues to influence the patient's behavior and has led to the term "the dynamic unconscious" so prevalent in psychologic literature. It merely implies that material though repressed, still remains very active so far as the person's behavior is concerned.

The material repressed was purposefully repressed to avoid pain or anxiety, and because it was unacceptable to the environment in which the patient lives, there is a rather natural reluctance on the part of the individual to bring this material back into consciousness because it will be unacceptable. This opposition to the return to consciousness of repressed material is called resistance in analytic lingo, and is an important factor in patients' behavior, in therapeutic situations, and in general life situations.

In working with patients Freud found that patients frequently worked out emotions upon the therapist that were originally directed toward some other person. This phenomenon was called transference. Certain types of identifications and similar activity could not be readily explained until Freud developed the concept of transference. Transference means that drives originally directed toward one person are later removed from that object and directed toward another person.

Freud discovered the infantile phases of sexual development in the course of analysis of adults, and verified it by observations in children. These early steps in the development were first described by Freud as going through certain very rigid phases. Most analysts still believe that the libido does develop through certain specific stages, although with perhaps more overlapping and less rigidity than originally believed. In the early portions of this chapter we described the behavior of children as they go through the phases in which most of their emotional satisfactions are received at an oral level, first the sucking or passive, and later the biting or aggressive phase of their development. The second, or (anal) phase, is also discussed in the earlier section. In this phase the child finds much emotional satisfaction and manifests great interest in the excretory functions. This phase may be somewhat divided into a retentive and an expulsive or aggressive phase. These oral and anal phases are sometimes called the pre-genital or the narcissistic phases of libidinal development. The next step is the first of the genital phases and is of great importance in psychopathology because for the first time the infant's emotional drives are directed outward and require other persons for their satisfaction. He begins to look to persons in his environment for satisfactions of his instinctual urges, particularly those of a sexual coloring. In this phase of one's emotional development, referred to as the oedipal situation, guilt feelings over hostile wishes towards the parent of the same sex, guilt feelings over sexual strivings towards the parent of the opposite sex, and fear of retaliation of the parent of the same sex, lead to a great deal of anxiety, which is usually classified as castration anxiety because many of the child's fears at this time are colored by his fears of genital mutilation by the parent as a form of retaliation. These anxieties produce a prolonged period in the libidinal development, known as the period of latency, in which the child runs away from heterosexual strivings and forms boys' clubs and other types of socially acceptable activity with persons of his own sex. Unfortunately, this phase is sometimes referred to as the homosexual phase. Actually, the child is running away from sexuality and seeking solace in the friendship of persons who either directly or indirectly symbolize the object of his fear. It is as if he were trying to ingratiate himself with the enemy as a self-protective device. With the biologic changes that come with puberty, there is a revival of the genital strivings and if the oedipal situation has been satisfactorily negotiated the individual enters into adult sexuality as we understand it. Vicissitudes in accomplishing the transition from one of the earlier phases to another, or fixation at one of those phases due to unusual frustrations, traumas, or excessive satisfactions at any one of these phases, may produce what is known as a fixation at an oral and anal or primary genital level. Later in life, situations with which the ego cannot cope, may result in a return to one of these earlier forms of satisfaction as a way of finding expression for one's emotional needs and as a safety measure to preserve the ego. This going back is dubbed "regression" in analytic terminology.

The human organism in its attempt to find satisfaction for its basic urges in the environment or if you like in an attempt to adjust to its culture uses certain psychologic devices which are usually referred to as "mechanisms of defense," although "methods of adaptation" would be equally descriptive. These mechanisms are also referred to as "ego defenses" in that those portions of the personality that function to find satisfaction for the basic needs are called the ego. These defenses are of two general types. First, defenses which succeed in warding off drives which are not acceptable by finding substitute satisfactions for them or by abolishing the need for satisfaction at that particular moment, and defenses which are less successful and lead to repeated recurrences of the drive and the need of defense. These latter defenses usually result in pathology of some sort and may result in any one of the functional neuroses or psychoses, depending upon the particular organism, the type of distressful situation and the mechanism of defense selected by the ego.

Sublimation is the general term applied to the successful defenses. Sublimation involves changing the object of the instinctual striving to one that is acceptable to the super-ego and ego, and in some instances both the aim of the instinct and the object are changed. In this successful adaptation the basic striving is satisfied through a substitution of one object which is acceptable to the person for one which is unacceptable. Sublimation is possible if the phases of the pre-genital development (narcissistic phases) have been successfully negotiated so that each phase contributes elements of stability and satisfaction which can be used constructively in later phases of development. All of the pre-genital adjustments enter into the development of adult heterosexuality. Various forms of sublimation are common to the experience of the student. The discharging of excessive hostile or competitive urges in sports such as football, hunting, and activities of that type is a common part of our American culture. The identification of the boy with his father, the semi-deification of the concept of "mother" in American culture are other examples of the sublimation of urges not entirely acceptable to the individual but which are handled in a socially acceptable and culturally constructive way by the process of sublimation. In all of these situations the aim of the instinct is altered, the sexual components being removed, and the substitute object provides a satisfactory outlet for the instinctual strivings. Fenichel expresses it: "Conflicts between instinctual demands and fear or guilt feelings are not necessarily pathological. The way in which the conflicts are handled determines whether the further course is a normal or pathological one. As long as normal instinctual demands have their place within the total personality and can achieve periodic satisfaction the remaining conflicts have a relatively minor intensity and can be solved without pathological results. The ability to discharge instinctual tensions by periodic gratification is the best guarantee for mental health and also a prerequisite for undisturbed sublimation."

Those portions of the instincts which are in conflict with the customs and the demands of the environment must be handled by other methods of defense. These drives produce feelings of shame, disgust, or guilt in the child and as a result they are not satisfied directly or by sublimation, but the drives are suppressed. To keep this material out of consciousness, and thus avoid the painful recognition of it, certain other defenses become necessary. Because the energy from the repressed drive remains in the unconscious, the drive is continually seeking satisfaction and will associate itself with another impulse, thus increasing the intensity of the other impulse and at times actually changing the emotional coloring of it. The utilization of these mechanisms of defense explain most neurotic symptoms, many of the symptoms of the psychoses and other human behavior that may seem illogical or strange.

Denial is perhaps the simplest form of ego defense. Denying the presence of painful sensations or anticipated unpleasant experiences is one of the commoner ways of reducing anxiety. The child in the doctor's office who repeatedly reassures himself that the needle stick will not hurt (although past experience tells him otherwise) is an example of the beginning of this type of mechanism. The grownup who fancies that a marriage, a divorce, or changing jobs will solve all of his problems is a more grown-up version of the same type of reaction.

Projection is another commonly used form of adaptation to the environment. Projection has a normal facet in the buck-passing and alibying so commonly seen after personal failures in love, business, or sports activity. The unfair umpire, the bad lie in the golf course, the "general condition" causing business failures, are all examples of persons projecting their own failures and inadequacies on to objects or persons in the environment, thus alleviating a great deal of anxiety, guilt feeling, and sense of failure. Projections may progress in severity until we have a complete distortion of the external environment with delusions of persecution and hallucinatory experiences of a fearsome type seen in certain paranoid schizophrenic patients.

Introjection is another commonly used mechanism of defense. It is closely related to the earlier pleasurable sensations associated with the taking of food and the incorporation of other things into the body. Because this incorporation not only affords the body pleasure but at the same time destroys the identity of the external object, the person may later rid himself of hostile impulses or symbolically eliminate a feared person by incorporating certain qualities of the feared person into the personality. This identification with other persons is commonly seen and undoubtedly plays a role in the child's attempts to imitate the father during and after the period of the oedipal conflict and castration anxiety. The old political adage, "if you can't lick 'em—join 'em," is an example of one form of introjection.

Repression is the type of ego defense most familiar to the student. Unacceptable or painful impulses may be pushed out of consciousness, or if you like, forgotten. This material may seek an outlet in certain body systems as in hysteria, or may exist as voids in the memory pattern. It is not uncommon in psychotherapy to find that patients have periods of one or two years during their childhood for which they have little or no memory. Other patients have no recollections of one of the parents prior to eight or nine years of age. This repressed material may become manifest as feelings or ideas that the patient adheres to very rigidly.

Reaction formation is closely related to repression and is a method of handling or discharging the repressed material. The completeness and the success of this maneuver will vary considerably from one patient to another. For example, the person who has many hostile wishes or aggressive wishes toward people around him or many temptations in the sexual sphere may become a very rigid, rabid religious fanatic, denying and inveighing against all manifestations of pleasure, because all of them represent threats to him. The compulsive character who is meticulous about his person and about his physical effects, becoming quite anxious and upset at the slightest disarrangement of his preconceived order of things, is, as a rule, reacting against strong anal impulses to smear and spread filth around him. The mother who did not wish a child, tried to have an abortion and has a great deal of hostility toward the child, may react to this with anxiety and guilt and as a result becomes the typical oversolicitous, hovering mother who continually fears that something harmful will happen to the child. Secondarily, of course, by this protection she "grinds him down" and is showing a sweet form of hostility which is frequently openly accepted and embraced by her women friends. The Don Juan, or particularly aggressive he-man type of he-man, may actually be using this type of super-masculine activity to ward off homosexual impulses.

Undoing is a form of defense closely related to reaction formation, and consists in another step. A good example is seen in the case described under the psychoneuroses in the medical student, who among his compulsions felt the necessity of leaving out part of his examinations and then would undo this by offering a quick prayer in which he promised God that he would answer all the questions completely. This undoing of the original idea results in an accentuation of the original idea and leads to frequent repetition of symptoms of this particular sort.

Isolation is a type of defense most commonly seen in the compulsive neuroses. The patient retains in consciousness the recollection of the psychogenic trauma, but he has isolated it from its original significance and all or most of the emotion or feeling that went with it. It is extremely difficult to get these patients to tie the emotions into the original situation. Patients will tell you of the situation in a calm manner during their sessions, but discharge their emotions on apparently completely isolated objects. For example, we treated a young woman who was spending all of her time in the bathroom of her home, going through washing rituals. She would wash her hands and her clothes, and then wash the bowl in which she had washed her hands and clothing, then of course her hands were contaminated because she had washed the bowl, which meant she had to wash them again, but in this act of washing contaminated the bowl, etc. It developed that the thing she actually feared was paper and her hands had touched paper. She feared paper because letters, newspapers, and magazines were brought by the postman. He in turn, in getting to her house walked by the public library where there were books. The patient feared library books because she had one time been told that one could contract scarlet fever from library books that had been handled by patients with scarlet fever. It appears that she feared contracting scarlet fever because a small boy of her acquaintance had had scarlet fever. It turns out the patient had had a great deal of heterosexual play with this boy, who had subsequently developed scarlet fever and the patient had had a great deal of guilt and anxiety about him. She was able to discuss this play with the boy, and his part in her past without much display of emotion but became almost panicky with anxiety and fear if anything connected with paper came near her. This is a rather extreme example of isolation, and shows how certain obsessive symptoms develop. The patient had taken the original fear and guilt concerning her play with the boy and her feeling of responsibility for his scarlet fever, and had transferred it, step by step, to seemingly irrelevant objects.

Regression. Patients meeting situations that are extremely difficult or impossible to adjust to may go back to an earlier type of adjustment. In the social sphere this is quite common. Persons who are promoted to new positions of responsibility will occasionally find they cannot handle them and ask to have their old jobs back. Country boys going to the city sometimes find it necessary to return home in order to get along. In a psychologic sense persons who fail to adjust on an adult level may develop various types or varieties of childish dependency. When they go back home to "Mama" for support, either financial or emotional, they may regress to even more infantile forms of behavior. An attempt to return to the breast or the bottle may result in prolonged alcoholism, pre-genital forms of sexuality, and other types of infantile behavior. The degree to which regression takes place plays an important role in determining the type and the severity of the neurotic or psychotic reaction that a patient summons to his aid when external situations become too severe to handle in a constructive manner.

Blocking is the handling of emotional charges that the patient feels inadequate to care for by repressing and denying them. Classical examples of this type of defense are frigidity, and the extreme passivity of the individual who is actually unconsciously very hostile. These affects which are blocked are often postponed and discharged later on some substitute object. Thus, a person of our acquaintance was prone to weep when he heard certain types of music or when he attended children's plays. Investigation in this case revealed that this patient had been instructed or compelled to repress his emotions as a child and was not permitted to react to punishment or disappointment with weeping or anger, and the affect had become blocked and was later discharged in seemingly irrelevant situations.

Displacement is closely connected with blocking. The above patient is an example of blocking, postponement, and displacement of affects from rage or grief toward parental action to some children's play or bit of sad music. This displacement frequently operates in the obsessive patients.

Other mechanisms of defense not described in the analytic literature should have some discussion at this time. Hallucinations are sensations perceived in the spheres of the special senses without external stimulation. Hallucinations commonly occur in the schizophrenic reactions, the affective disorders, some of the organic states, and most commonly in the toxic reactions. No adequate explanation of hallucinations has been made, although the best discussion of it is that of Schilder. It seems most productive to consider hallucinations, as we do all other symptoms, as attempts of the organism to solve situations in which he finds himself. A psychosis represents the individual's attempt to find satisfactions for his basic strivings in an environment where they are not available. The individual regresses and begins to distort the environment into forms that would be more satisfactory to him. He resorts first to phantasy, then later to actual hallucinations. It seems logical to assume that the ego, confronted with situations which are tremendously confused either because of anxiety and threats to the ego or from toxic processes which interfere with the cortical function, attempts to organize the external world into a less confusing place to satisfy himself. Inasmuch as the major portion of our awareness of the world around us is through the organs of the special senses it seems only logical to assume that the sick person would likewise use these senses to distort the environment around him to make it more satisfactory to him. As a result, he probably begins to objectify things in the environment and due to old conditioning responses interprets these sensations as actual sensory perceptions, where in actuality none exists.

Delusions. The same material discussed for hallucinations would apply to delusional formation. The projecting outward of one's need in order that one may make the environment more satisfactory, the distortion of the environment, and interpretation of environmental events in terms of one's own needs at the moment is commonly called a delusion. It would seem that the principal difference between hallucinations and a delusion, which are frequently associated one with the other, would be that in the former the projection organizes the world into sensations and objects which are perceived by the special senses, and in the latter it is done in the sphere of concepts, thoughts, and ideas.

Illusion. In this concept of hallucinations and delusions an illusion becomes little different from a hallucination, the outstanding difference being that in illusion the individual actually chooses some environmental stimulus and interprets it in a manner which aids him in solving his problems, while in hallucination the environmental object is projected in its entirety. It seems likely that illusions may represent less serious psychopathology in that the individual needs some object to misinterpret while in hallucinations he can create the object and interpret it in any way he sees fit.

The basic drives or instincts have their origins within the tissues and guarantee satisfaction of needs that the organism must meet if it is to survive. The things or persons within the environment which will satisfy a particular need are known as the *object* of the drive. The desire to avail one's self of the particular object is referred to as the aim of the instinct, that is, the instinct seeks to find satisfaction by working toward or availing itself of the above-mentioned object. The source of the instinct is thought to be within the chemistry of the tissues, and represents the basic need which must be satisfied if the organism is to survive.

Before proceeding to a study of the individual reaction types a few more words are necessary. The phenomena outlined in the preceding pages contain some of the things that go to make up and explain human beings. The reason why one person adjusts well to the vicissitudes of life and others do not can be understood in individual cases. In all cases it becomes necessary to evaluate the individual and all of the things that go to make him what he is. In doing this we must evaluate the so-called constitutional and hereditary factors. These factors, as acted upon and modified by the environment both internal and external, as he grows will determine his total capacity to react to or adjust to life's activities. Thus a person with great potentials can handle most anything that may come up. His contemporary of lesser resources will have difficulty in adjusting to anything beyond minor vicissitudes. The degree to which a person can adapt himself to difficulties in life, the degree to which he can achieve and construct things in this world will depend on his overall reaction and the general environmental configuration in which he finds himself. It should be remembered, however, that things that happen to a person—his education, his friends, his economic and social position, his religion or his politics—all go to make up the final reactive capacity of the individual. As an analogy, one might liken life to a large bayou or bay, through which a person must walk. The bottom is irregular. In places the water is deep, in other places the water is shallow—in some places the ground is firm for good walking; in other places it is heavy and mucky and slippery. Practically all people can walk readily through the shallow water where the ground is firm. The person of great potentials for adaptation walks along relatively undisturbed, by merely putting out greater effort whether the water is shallow or deep and the bottom firm or muddy. Lesser brothers will flounder in the mud if weak, but do fairly well on the firm ground. The short person will have great difficulty in the deep water, but if the deep water expanse is not too great he can probably carry himself on by swimming or holding his breath. If life's vicissitudes exemplified by the deep water, are too great, however, he will drown. And thus with life in general, persons will adapt themselves to it depending on the situation, or if you like, the depth of the water and the condition of the bottom, with varying degrees of success, depending upon the difficulties of the situation and their overall capacity to adjust. In order to predict how a person will adjust to life's experiences it is necessary to evaluate all of the above-mentioned things. His total personality resources in terms of constitution and inheritance, his total life experiences, evaluating the nature of the experiences, as well as the person's reactions to them and the success with which he adapted to them to evaluate the influence these have on subsequent experiences and finally, the total person as we see him at the moment.

Students are sometimes concerned because psychiatrists spend so much time worrying about the child's reaction to life and the various stages of infantile development. In some instances whole new schools of psychiatry have been formed on the issue of the relative importance of the past versus the present social milieu. In practice both things must be considered. It should be remembered, however, that events that happened yesterday will influence your life pattern and modify your adaptation to life from this day forward, but today, those events of yesterday have been influencing your reaction and ways of thinking for only one day. Thirty years from now they will play a more basic and integral part in your reaction because they will have been influencing your behavior for 30 years. And so it is with things that happen in infancy and early childhood. At age 20, events happening at age five have been playing an integral part in your reactions and concepts of the world for 15 years and thus play a larger role, other things being equal, than similar events which happened on the day before. It is thus common to say that in childhood one's basic patterns of reaction are laid down. This is true, for the simple reason that patterns of reaction formed at this time continue to modify behavior in some way or another throughout the rest of one's life. But it is equally true that other events happening at other periods of time also modify one's behavior—it is merely that they modify one's behavior for a less long period. Thus the student would be negligent if he did not consider all of the events that happened to a person throughout his life and giving to each its proper weight and evaluation. The severity of the reaction and the importance of it will depend on its general emotional significance to the individual at the particular time. Thus in evaluating the effects of any event, its emotional significance, as well as the time of occurrence must be determined to fully evaluate its total importance to the individual's personality pattern.

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CHAPTER 2

METHODS OF PSYCHIATRIC EXAMINATION

It is essential for the successful approach to psychiatric problems that: (1) the examiner have a clear idea of the data necessary for the understanding of the case; (2) he must have a sense of continuity and purpose in the examination; (3) he must approach the patient in a genuine spirit of sympathetic understanding and helpfulness; and (4) he must be willing to spend whatever time and energy are necessary to achieve the establishment of that mutual rapport which will work toward a solution of the problem. It will be apparent that in general these are the considerations which apply in any medical approach.

Therefore, the same methods used in general medicine are employed for psychiatric investigation, namely: (1) the indirect examination or historical data concerning the chronologic evolution of the difficulty as focused in the complaints concerning the past performance and the family tendencies. (2) The direct examination of the mental status, and the physical status, which gives a cross section of the present behavior. (3) The contributory information from special examinations, and the patient's course under observation and treatment.

Too often the examination of the psychiatric patient is described in a way that it appears to be a difficult and even a formidable task. Actually, if the examination is made in an easy and natural manner, with some background of experience, it is not at all difficult and is extremely interesting. The objective of a psychiatric examination is *not* to discover the condition of the patient's mind, but to come to an opinion concerning the patient, as a person, body and mind together. They are inseparable.

An obvious starting place for the examination is the history. It naturally separates itself into four major divisions:

1. *Complaint*
2. *Present Illness*
3. *Past History*
4. *Family History*

Complaint. An easy way to start is to say to the patient, "What seems to be troubling you? Tell me about it."

Not infrequently such an opening may loose the patient's tongue and there will emerge an account which is worth a dozen formalized histories.

Above all else, let the patient *tell his story in his own way*. Gaps may be filled in and details supplied later on.

The patient's chief complaint may be vague—"tense," "blue," or it may be concrete, and the patient may at once and in no uncertain language damn his "persecutors." The patient may recite a list of psychosomatic symptoms: headache, backache, nausea, vomiting, etc. At this early cross-section the examiner has no magic way of knowing whether these symptoms may be indicative of organic pathology, mayhap liver cirrhosis, or even brain tumor, or of an emotional marital tangle or of a remote, deeply buried emotional conflict, dated in childhood. The patient may not have any particular complaint. For instance, he may be quite content with this phantasy life. The complaint may come from his parents or his children, or wife or husband, or employer who are deeply concerned about his behavior.

Present Illness. Again if the patient is coöperative, let him tell his story in his own way. Fill in the chronologic order and sequences later on. The nature and incidental setting at the onset is always important. In a general way, the more acute and dramatic, the more favorable it is prognostically, as compared to a gradual, sometimes almost imperceptible, withdrawal from the realities of life. Likewise, it is relatively favorable if the onset coincides with a severe environmental insult, as in one of our patients, who "blacked out" and had an amnesia for the time when her 15-year-old daughter confessed to her that she was illegitimately pregnant. All in all, the history of the present illness gives the examiner a clear idea of the illness, from its beginnings and traces its development and progress.

Past History. The past history is the record of everything that has happened to the patient, from the environment and inside himself and his reactions thereto. Of course, it can never be complete.

BIRTH AND DEVELOPMENT is reviewed with special reference to childhood maladjustments: nail biting, thumb sucking, night terrors; fears of the dark, of storms, of animals, etc.; finickiness with food; the social adaptation, noting outgoing or seclusive tendencies in the home, school, play; and the more asocial traits of lying, stealing, truancy, cruelty to other children or to animals, etc.

HEALTH RECORD, with a careful survey of previous diseases of all kinds. There should be included the patient's attitude toward his health, disregard, neglect, overconcern, and other reactions.

SCHOOL RECORD, including dates of beginning and ending of schooling, number of grades taken, grades repeated, isolated failures, and degree of scholarship. Special school interests should be noted and liabilities, including speech and writing disabilities. In children who are brought to the physician because of school difficulties, a copy of the official school record and the teacher's estimate of the child are useful.

WORK RECORD. Kind, specific jobs with chronologic sequence, degree of skill in the craft or profession, salaries, reasons for leaving jobs, attitude toward work responsibility, satisfaction in the work; the economic status—debts, responsibilities, habits of saving.

INTERESTS AND HABITS. The patient's assets in collateral interests, as in religion, art, theater, literature, sports, clubs, various cultural movements, etc. An inquiry into habits, specifically eating, sleeping, play; alcohol, tobacco, drugs, coffee, tea, etc.

These considerations are important, in view of the breakdown in patients of the appreciation and utilization of native or acquired assets through neglect, or lack of opportunity, unwholesome rut formations. Often therapeutic hints are derived from a careful check of interests and habits.

PREVIOUS ATTACKS of like or unlike character with specific data as to time, duration, symptoms, course, outcome, and where hospitalized.

SEX DEVELOPMENT AND PERSONALITY are so enormously important that they will be discussed separately.

As the past history unfolds, there is revealed the sum total of the patient's reactions to the psychosomatic onslaughts and liabilities of his life—and also to its assets. Every effort should be made to lift the curtain separating childhood from adult life. The core of psychopathology is very likely to be laid down in the early relationships of life, first with the mother, then with the parents, and as a unit in the family constellation.

Something very important emerges from the interreaction between man and his environment—the human personality. It is too vast and dynamic to be confined in a definition of a cage of words. It is the determinant of behavior, at any given cross-section of life, the condensed record of everything that has happened to the individual. Yet it is ever-changing from cradle to grave. Its nucleus is derived from the ancestry, but from birth, at first rapidly and later in life, slowly, the personality is moulded and fashioned this way and that.

We can give only the barest minimum of its vast content—physical build and characteristics, intelligence, directions of thinking, affectivity and emotional traits, enthusiasms, ideals; and also bias, prejudice, hostilities, and sometimes shameful and bloody intolerances, habits, interests, hobbies, drives, tendencies, energy output, aggression and submission, selection of vocations and avocations, social adaptability, the potentiality for success or failure, for happiness or misery, and many other ingredients. The measure of the stature of the personality is the degree of emotional maturity and there are innumerable gradations.

One of us once wrote that in the psychoses and psychoneuroses, to the clinical square inch there was more referable to sex than to anything else. Therefore, the past history should delineate a clear picture of sex development including the first awareness of sex, how, when, and with what preparedness and attitude; evolution of the sex interest, and specific data on the sex pace, as noted in overt sex activity (physiologic and psychologic data of erections, emissions, menstruation), as well as the more mental factors of sex fancies and dreams and their effects; autoerotic, homosexual, and heterosexual features; attitude to family formation.

MARITAL DATA. Date of marriage, marital adjustment with degree of satisfaction, special gratifications, disappointments, and difficulties; pregnancies and their results; attitude to the specific sex factors and satisfactions, therefrom; contraceptive methods, reasons for the methods used, safety coefficient, fear of pregnancy; conflicts aroused by the practice.

Very practical clues may be furnished by the past history—a course of treatment of "medicine into the veins" might suggest lues and paresis; a marked pattern of latent homosexuality might be explanatory of a paranoid psychotic reaction; an unsatisfactory childhood set-up might have engendered sufficient unconscious hostility and guilt, so that a psychoneurosis appeared in adult life.

Family History. Families tend to overemphasize the influence of the ancestral record. It is one way of escaping feelings of personal culpability and guilt. Of course, the family account of the direct and collateral ancestry is important. The examiner will note carefully the familial record of psychoses, psychoneuroses, suicide, mental defect, epilepsy, alcoholism, drug addictions, and many other conditions. Occasionally direct inheritance is highly significant as in juvenile paresis with a history of parental syphilis and in certain types of epilepsy, feeblemindedness and manic-depressive reactions. More often the family life is important, because of its environmental liabilities. Children readily imitate psychotic and psychoneurotic displays in other members of the family. The family history should include the data of the family life, the interfamilial relationships, with special allegiances, dislikes, frictions, etc.

The history has now been taken not only from the patients, but also from all other available sources. It can never be considered a closed book and should be kept open for supplementary data, which will be obtained from time to time. A reasonably complete, well-taken history serves a double purpose. It is a bi-faceted searchlight. It illuminates the motivations and drives which shaped the psychiatric illness and its symptoms. It in turn is illuminated by the patient's particular psychotic or psychoneurotic reactions.

Physical Examination. From time to time, we will present various good reasons why it is imperative to make a thorough physical examination of each patient. At this place, it suffices to say that no conscientious physician would think of treating any patient for any serious condition unless he was familiar with the state of the systems and organs of the body. Sometimes the physical survey may yield conclusive information. Complaints and symptoms of patients do not carry distinguishing labels. Sometimes symptoms which at first view seem to be due to unconscious mental conflicts are finally shown to be the result of organic diseases, arteriosclerosis, syphilis, intoxications, or metabolic disorders.

Sometimes it is good judgment to make a preliminary physical examination at the first session with the patients. Many people are reassured at seeing the familiar instruments of the doctor—the clinical thermometer, the stethoscope, the sphygmomanometer, the reflex hammer.

PHYSICAL STATUS. The physical examination must be complete. Experience shows that special attention should be paid to body build (pyknic, athletic, asthenic, dysplastic types); evidence of endocrine dyscrasia; focal infections; the gastrointestinal functions; the genital development and workings; the neurologic status, including the autonomic participations in emotional reactions; and the serologic and blood chemistry studies.

The physical findings may appear purely incidental in the behavior pattern, or more closely integrated into that picture, or may be as yet largely a matter of research interest. Reference will be made later to the more common somatic findings in certain behavior patterns.

Neurologic Examination. Every psychiatric patient should have a careful neurologic examination. The student should follow one of the standard examination outlines until he has familiarized himself with a systematic examination procedure. In patients with evidence of neurologic abnormality special procedures such as vestibular tests, pneumoencephalogram or ventriculogram, arteriograms, and electroencephalograms must be performed as indicated by the findings in each case. Special attention to the endocrine and autonomic nervous systems is indicated in many psychiatric cases.

Direct Mental Examination. The examination should be an easy, natural procedure, never formalized or a bristling questionnaire: "What is the date? Are you sad? Suspicious? How much is 9 × 14?" Put the patient at ease; try to establish a friendly relationship; encourage the patient to talk freely and then let him talk. Sometimes we say to a patient, "Let's forget what your family said; just tell me in your own way how you feel about it." The examiner should never be stern, rebuking or judicial, but rather interested, helpful, kindly.

The mental examination should cover certain areas, but there should not be insistence upon sequence. Gaps in the patient's story can be filled in later by a few judicious questions.

In his examination the examiner covers the following areas:

1. *General Appearance and Behavior*
2. *Stream of Talk and Activity*
3. *Content and Special Preoccupations*
4. *Mood*
5. *Sensorium and Intellectual Resources*
6. *Insight*

General Appearance and Behavior. For years we have been trying to teach our students to use their powers of observation to the full extent. While scientific advantages have accrued from the many available instruments of precision, yet we have paid a penalty. There is some danger that our powers of observation may atrophy from disuse as has our sense of smell.

Careful observation reveals a wealth of information. Here are a few things that may be seen: General appearance of the patient? Well-groomed and neat? Untidy? Physical bearing—tense, stiff, nonchalant? Speech—much or little? Movements and gestures—purposeful? in touch with the surroundings? or aimless? etc.

Is there negativism? Formerly, in its restricted sense, its meaning applied to automatic-like muscular resistance to any attempt by the examiner to move a muscle or part, like the downward pull of the eyelid, if pulled upward. Now, the clinical meaning of negativism is much broader—for instance, the retention of urine and feces, and, indeed, a pathologic resistance against any environmental demand.

Catalepsy may be observed. In catalepsy, the limbs may be placed in awkward, strained positions which may be retained beyond the period of physiologic tolerance. Catalepsy has, at least, a three-fold implication. It occurs in certain brain inflammations; it may be pharmacologically produced by the injection of the drug, bulbocapnine, into cats; it has psychologic significance.

Experiments on animals, perhaps, suggest that catalepsy may be related to human frustration and perplexity. For instance, when the operation of certain apparatus is switched so that instead of the expected pleasant return, food, there is an unpleasant or painful response, such as an electric shock, the mice or pigs may become cataleptic.

Cerea flexibilitas is an extreme degree of catalepsy, in which the limbs seem to the manipulating hands of the examiner, as though they can be moulded, like wax.

Mannerisms are bizarre, exaggerated ways of doing ordinary things, for instance, hopping every third step.

Echopraxia is the reproduction by the patient of physical motions, such as gestures made by those in his vicinity, as echolalia is the imitation of speech. These and other catatonic-like symptons, such as automatic obedience (in which the patient is unable to resist protruding the tongue to have it stuck with a sharp needle), whatever be their deeper significance, have in them a strong element of suggestibility, reminiscent of posthypnotic behavior suggested during hypnosis.

Catatonic and other stupors (so-called benign stupors) may be witnessed. In many of these stupors, even exhaustive examinations fail to uncover satisfactory evidence of somatic pathology, though, of course, chemical changes may be inferred. Often the stupor is so profound that there is no observable reaction to painful stimuli, and there seems to be an abeyance of thinking, emotion, and motion. For some patients, the stupor is symbolic of death, and the emerging from it, of rebirth.

In stuporous conditions, it is necessary, of course, to exclude organic involvement. Furthermore, the following observations should be carefully made:

(1) the degree of alertness to environmental distractions, as by following the examiner with the eyes, even when gross bodily movements are absent; (2) the degree to which the patient responds to spoken commands, or exhibits negativism (active, by doing the opposite of what is requested; or passive, a more stubborn resistance to casual attempts—change of posture, etc.); (3) the presence of sustained queer postures, as holding the head off the pillow; (4) presence of drooling; (5) reaction to painful cutaneous and deep sensory stimulation; (6) spontaneous changes in the motility (especially during sleep), the speech, etc., (7) whether spoon feeding or tube feeding is necessary; (8) evidence of spontaneous or reactive emotional display with smiling, laughing, tears, playfulness, anxiety, etc.; (9) catalepsy, or the holding of postures imposed on the patient, in marked cases the so-called waxy flexibility being present.

We have indicated merely a small segment of the vast amount of clinical evidence which may be discovered by observation. Some years ago, one of us made a purely observational study (without benefit of history, without asking any questions, and confined to one examination of 100 consecutive admissions) and the diagnostic impression was almost 80 per cent correct.

Stream of Talk and Activity. Awake or asleep, the stream of thought flows on unceasingly. Speech expresses thought, but semantics has emphasized the fact that, as often as not, speech is used to conceal, rather than reveal thought. At first survey, the examiner views the stream of speech in general terms, amount, speed, pressure, just as the internist at first determines the volume, speed, and pressure of the blood stream. This is a good time to remember that, both in normal and abnormal mental life, the emotions control thought and speech, accelerating or braking it, according as the mood is happy or depressed. Indeed, emotion, is the dynamo of psychic life, and again, normal mental processes and mental symptoms (delusions, hallucinations, obsessions, etc.) alike, derive their strength and driving force from the emotions. Finally it is well to remember that there is no symptom of psychosis or psychoneurosis which may not be found in miniature in so-called normal mental life. The difference is not in kind, but in degree. But degree is important.

For instance, in *distractibility*, frequently seen in the manic phase of manic-depressive psychoses, the thinking and its speech expression are tossed about this way and that, at the behest of external distracting sensory stimuli (what is seen and heard) and by internal thought associations.

In the extreme of distractibility, *flight of ideas*, these reactions are so marked that the patient never completes the goal of his thought and his productions sound delirious.

The opposite, slowing or *retardation* of thought and speech, sometimes drying up into mutism, commonly occurs in the depressed phase of manic-depressive psychosis.

Many other disorders of thought and speech occur—the *dissociated think-*

ing of schizophrenia in which the parts of a single sentence seem on the surface to have no relationship to each other; *neologisms* or words coined by the patient and having significance only in his mental life (one of our patients spoke of the "dartleroid," a thought collecting machine); garrulous and repetitive speech, obsessive or "must" thinking, seemingly in spite of the determination of the patient to inhibit it; confused, incoherent, inarticulate speech, as seen in severe toxic reactions and in deterioration (dementia) and many other thought and verbal symptoms.

In examining the stream of talk and activity, the examiner looks specifically for, (A) underactivity with general slowing of motility, speech, and thinking; for (B) overactivity with restlessness, agitation, or more purposeful expansive or playful motility, ease of thinking, and association, with distractibility, and pressure of talk with play on words, rhyming, flight of ideas; or for (C) incongruous, distorted, bizarre activity, with queer mannerisms, grimacing, stereotyped movements or mutism, catalepsy, scattered, incoherent talk, "word salad," and queer condensations of words or parts of words or new word formations, with blocking of thought, poverty of thought, or with feelings of a multitude of random thoughts crowding in.

Some of these phenomena, slowing of physical motion, restlessness, agitation, mannerisms, grimacing, stereotyped movements, mutism, catalepsy, etc. have already been noted in viewing the *General Appearance and Behavior*. Now in the setting of speech, their meaning becomes clearer and their interpretation often is made possible.

Content and Special Preoccupations. After the internist has made a general survey of the blood stream, he scrutinizes it carefully for pathology—insufficient hemoglobin, abnormal red and white blood cells, infecting organisms, etc. So does the psychiatric examiner look carefully into the *content* of the stream of thought for pathology, as revealed in the *special preoccupations* of the patient.

He may find *illusions*—sensory misinterpretations, not dissipated by logical proof of the sensory deceptions, as are the illusions of everyday experience.

There may be *hallucinations*, often vivid experiences, described as things seen, heard, smelled, tasted, touched. It is assumed that hallucinatory experiences do not have any stimulus or starting point in actual sensory perceptions.

Delusions, or gross false beliefs of all kinds—grandiose, belittlement and inferiority, depressions and self-blame, persecution, nihilistic, and many other types.

Ideas of reference in which erroneous and pathologic significance is attached to casual happenings in the environment (an accidental cough, for instance), which are interpreted by the patient as referring to him, usually with deliberate insulting or direful intent.

Then there may be *obsessions*, dominations of the personality by certain trends of thought and *compulsive behavior*, that is, behavior which cannot be inhibited even though the patient may try strenuously to control his conduct, and phobias, or fears of all kinds. Obsessions, compulsions, and phobias are nice examples of cover-up or camouflaging symptoms, psychologically designed to protect the ego and representing an unconscious choice of the lesser of two perils—the greater one being the danger of the appearance in consciousness of repressed material, which the ego cannot face. Obsessions, compulsions, and phobias often determine amazingly elaborate rituals, which are utilized slavishly as "protective" devices.

So too, particularly in the psychoneuroses, the examiner may uncover tension, anxieties, unconscious hostilities, buffered by guilt feelings, sexual conflicts of all kinds, death wishes, etc. We have mentioned only a fractional part of the rich pathology of thought content and preoccupations.

A little comment is indicated. We have never been able to accept the extant explanation that an hallucination differs from an illusion, in that it is devoid of sensory stimuli. We feel the differentiation has been made on the somewhat unscientific basis, that in illusions, the sensory stimulus is demonstrable usually by the testimony of the patients; in hallucinations, it is not demonstrable. We believe it is present, nevertheless. Some years ago, one of us investigated a number of patients with marked hallucinatory delusional experiences referred to the stomach—snakes, rats, and other animals, "pinching, scratching, biting, etc." In all the patients, there were abnormal stomach conditions, including total absence of HCl.

There has been much discussion about the difference between delusions and merely false opinions, which are so common in everyday life and considered to be within the range of "normal" mental thinking. True enough, both are founded in early acquired strong emotional impressions, bias, prejudice, perhaps, intolerances, emotionally isolated from and insulated against the intrusion of logical proof to the contrary. But a delusion is a very strong and invulnerable false belief, accepted by the patient, rather than face in consciousness, ego-belittling and shaming material, such as a strong latent homosexuality, which if it intruded itself into consciousness, would be repugnant to the remainder of the personality and to society or the herd. Incidentally and in a general way, the psychologic necessity for the personality to disown certain of its ego-shaming and herd-disapproved segments is the chief undercover motif of mental and psychoneurotic symptoms.

We wish to repeat that every psychotic and psychoneurotic symptom has its miniature "normal" mental life representation—blueness of spirits, instead of pathologic grief and melancholia; innumerable superstitions, beliefs, and practices, instead of compulsive behavior and phobias; slight inferiority reactions, instead of psychotic and psychoneurotic self-accusation; mild worry, instead of intense anxiety, etc.

We reiterate, too, that prevailing mood and emotion determine the strength and direction of psychotic and psychoneurotic symptoms, just as they control the thinking in "normal" psychic life. A thought without emotional support would be pallid and ineffectual.

Finally, it must be remembered that in themselves, psychotic and psychoneurotic symptoms at the mere descriptive level mean little or nothing. For instance, merely to note hallucinations of hearing or psychosomatic displays is scarcely modern psychiatry. It would be much like memorizing the sound of a heart murmur as heard through the stethoscope, without understanding the genesis and mechanics of its production. If we understand that the "voices" which accuse the patient of sex perversion are derived from a marked latent homosexuality or the genitourinary psychosomatic symptoms represent an unconscious escape from the sexual component of marital life, mayhap because the wife does not represent the mother figure to which the husband is still tied, then we are beginning to uncover hidden psychopathology.

In concluding our discussion of *Content and Special Preoccupations*, we present a few sample questions. We do not recommend that the examiner use these particular questions. If questioning becomes necessary, it is better for the examiner to frame his own questions. Otherwise there is danger of the examination becoming too stilted.

This portion of the examination is very difficult since it is directly concerned with material about which the patient may be sensitive, at least sensitive to sharing in discussion. The completeness of this portion of the examination is in some cases a good measure of the degree of rapport between the patient and the examiner.

As will be noted, the mood may be intimately linked with topical (content) considerations, as worry, anxiety, ecstasy, etc. The transition to this portion of the examination is made immediately by inquiring as to *why* the patient is worried, or anxious, or ecstatic, etc. One might naturally expect some relation between the content in such a case and the precipitating factors as determined in the history of the present illness. The greatest divergencies may be seen and should occasion no surprise. For example, a man who apparently becomes depressed by the loss of his savings in a bank failure, may offer worry over masturbation as the principal content.

In addition to the type of content associated with mood, the following are important and must be inquired into:

OBSESSIONS AND COMPULSIONS. Thoughts (also fears and doubts) which course through the mind and cannot be erased, which are usually recognized as absurd or relatively meaningless, or at least as parasitic on the personality, yet a part of the personality; and acts which are performed through some inner need, whose omission produces feelings of tension.

Do you have any thoughts which you can't get rid of?

Do you find yourself thinking of things and can't stop, or are you ever aware of thoughts, or words, or phrases, or tunes going round and round in your mind, and do you find yourself unable to control them?

Are you afraid of storms, heights, crowds, traffic, etc.?

Do you have difficulty in making decisions, finding yourself wavering constantly?

Do you feel compelled to do certain acts, or rituals?

Do you feel tense until they are done, even though you know them to be foolish, or unimportant? (e.g., hand-washing over and over again, locking and relocking the door, certain rituals for dressing and undressing, feeling of need for the curtains to hang just so, or all on a level, etc.).

Are you able to stop these actions at will?

The variations with causes are to be inquired for.

FAMILIARITY (DÉJÀ VU EXPERIENCES) AND UNFAMILIARITY FEELINGS (DEPERSONALIZATION AND UNREALITY—BENUMBING).

Have you ever been in a strange place or situation of any sort and suddenly had the feeling that you had been there before, or had experienced it all before?

Describe the experience.

The inverse situation and experience are also inquired into.

Do these experiences occur in any special setting?
How long do they last?
Do things seem natural (real) to you?
How different?
Are you aware of any change in yourself?
How does it affect you?

IDEAS OF REFERENCE, PARANOID IDEAS. Projections to the environment of internal insecurity or sensitiveness, or dominant motives, with feelings of being the object of environmental attention, especially of being the target of persecution or unfair dealing of some sort.

Do you feel at ease?
How do people (the world) treat you?
Have you had a square deal from life?
Are you bothered by crowds?
Do people look at you on the street?
Have you ever felt singled out for special attention?
Do people like you?
Does anyone "have it in" for you?
Has anyone a grudge against you?
Under what circumstances, or why and how does it affect you?

PASSIVITY FEELINGS. Feelings of being under the control of an external force.

Do you ever feel that your thoughts or actions are under any outside force (influence) or control?

Do you ever feel hypnotized?
Do you ever feel made to do or think things against your will?
Are your thoughts ever suddenly taken away from you?
Can people read your mind?
Does the radio have any special influence over you?

Inquire into the reverse phenomena—the feeling of being able to influence others, to read minds, etc.

DELUSIONS (FALSE BELIEFS) AND HALLUCINATIONS (IMAGINARY SENSORY ELABORATIONS WITHOUT EXTERNAL STIMULI).

The former may appear in the detailed present illness, or in the mental status as ideas of reference and paranoid ideas. Grandiose ideas may be elicited.

Both delusions and hallucinations are inquired for as follows:

Have you had any unusual experiences lately (since you have been sick)?
Has anything out of the way happened to you?
Any peculiar experiences?
Any imaginations?
Any day dreams?

More pointed questions with reference to hallucinations may be:

Have you seen (heard, smelled, tasted, felt) anything unusual?
Do you ever hear your name called when no one is about?
Do you hear people talk about you (or when you are alone in your room)?
Do you ever get messages from heaven?
Have you been bothered by any unpleasant odors?
Have you felt the need for bathing frequently? (Hallucinations body odor.)

Any affirmative answer is to be taken as a lead for the further description of exactly how the phenomena occur, what the exact content is, how it affects the patient, and means of control.

DREAMS. Ask concerning the dreams, especially for troublesome, anxious dreams, frequently recurring dreams, and the patient's interpretations.

HYPOCHONDRIACAL IDEAS. Ask for the presence of aches or pains, or unusual physical sensations. Questioning may reveal unusual physical concern, or excessive physical complaining, or bizarre, distorted somatic delusions.

Mood. The significance of the emotions has been emphasized. They are the life-giving essence of the personality. In psychiatry, much turns upon the emotions. For instance, in a general way, the prognosis depends upon their viability and appropriateness to the content of thought.

The way *not* to reach a satisfactory opinion concerning the emotional life of a patient is to throw at him, at once, a barrage of questions—Are you sad? elated? irritable? suspicious? etc. We are quite adept in judging the moods of our friends without endless cross-examination. Unconsciously we note the facial expression, physical posture, and gestures, the eyes, the intonation and cadence of the voice. These and many other things are more valid criteria than the mere verbal responses.

The examiner trained to observe closely has available many more criteria—pallor, flushing, dilatation of the pupils, throbbing of the neck vessels, clenched fists, rapid, shallow breathing, etc. He may supplement his observation by such clinical examinations, as blood pressure readings.

Before emotional reactions can be considered pathologic, they must have endured for some time. In the life of almost every human being, there are transient episodes of emotional disturbance, perhaps, murderous rage, jealousy, "blue" spells, elation, etc.

Questions, if needed, should be used sparingly. The questions must be framed so as to elicit an unprejudiced answer concerning the mood or affect, how it affects the patient, its variations and the causes and controls. The mood may be rather diffuse, as blueness, sadness, melancholy, depression, or lonesomeness, or as elation, euphoria, expansiveness. The mood may be more topically conditioned as worry, anxiety, or fear, or as ecstasy. Again the variations and their cause and controls are important.

Begin with the most casual, naïve questions and proceed to more pointed ones only when they clearly will not prejudice the answers. The following have been found useful:

How are you?
How do you feel?
How are your spirits?
How is your mood?
Any initiative? Optimism?

Then—

How does it affect you?
What do you mean by "blue" or "anxious," etc.?
How do things (the world, life) look to you?
Any ups and downs? Under any special conditions, or at any times?
Do you feel better in the morning or evening?
How is this different from your usual feeling?
Does it ever drive you to despair?
Does life seem worth living?

Sensorium and Intellectual Resources. The accommodations of consciousness and the placing or orientation of ourselves in relation to space, time, and person are so usual, that we are apt to forget how frequently the binding threads of consciousness are parted—in sleep, by anesthesia, in hypnotism, by fever, infection and intoxication, mental deterioration, etc. Even fatigue loosens the connections. In *disorientation*, which may be complete or partial, the patient is no longer able to interpret correctly the incoming sensory messages.

Not always is it true, as has been said, that we rarely forget that which makes a deep impression. In *amnesia*, ego-painful and belittling material has been "forgotten," repressed. Memory may be impaired by organic brain disease. For instance, in many senile deteriorations, *recent memory* may be annihilated. Later *intermediate* and *remote* memory are affected. There are many interesting memory disorders, for instance, in Korsakoff's syndrome, there may be *falsification of memory*, in which events which probably did occur sometime in the past are woven into the present. One of us was demonstrating a Korsakoff patient, weak, unable to stand, indeed, he had been bedridden for months. In reply to the question, "Where were you last night," he said, "You know, in that night club. Don't you remember the girls. You liked the little fat blondie."

In the division *Sensorium and Intellectual Resources* belong the testing of counting and calculation, writing spontaneously, from dictation and from copy, attention, school and general knowledge, familiarity with current events. All the needed tests should be made without mystery or formality; otherwise patients may become frightened or suspicious. In making intellectual tests, the examiner must bear in mind the intellectual equipment and educational background of each patient and keep well within its limits.

A simple testing outline is reproduced. This portion of the examination is liable to provoke annoyance through the fact of being put to the test. It is useful in introducing the subject to preface with the question.

"Have you had any difficulty in thinking, concentration or memory?" This gives many patients a welcome opportunity to excuse errors in advance, at the same time orienting the examiner toward special difficulty. The data are taken in the following order:

Orientation—to time, place person.

Have you kept track of the time?
What day (month, year, time of day) is it today?
You know where you are, don't you?
What sort of place is this?
What is this building?
What is your full name?
You know who I am, don't you?
What is my job? What do I do?

Memory. Recent, intermediate, remote. Best checked by the dates of the history with reference to the facts and to consistency in the story. Recent memory may be checked with events of the past twenty-four hours, which of course must be corroborated from authentic outside sources.

Retention and Recall. The patient is given three objects to remember and is told that he is going to be asked to reproduce them within a specified time (three to five minutes). The examination proceeds as usual and then the patient is asked for the three objects. This is a test of active retention. Also the patient may be led to mention three things in a casual conversation, and later asked to reproduce them. This tests the passive retention.

The retention of digits: For this purpose one may make up his own list, or use the numbers from the Stanford revision of the Binet-Simon test as follows:

Repeat Forward	*Repeat Backward*
31759 (year 7)	6528 (year 9)
521746 (year 10)	31879 (year 12)
9728475 (year 14)	471592 (year 16)
72534896 (year 18)	

It is always advisable to begin with an easy task so as to avoid the sensitiveness a failure might produce. Progress then to the next higher number. The digits are to be pronounced at about the rate of one per second, and care must be taken to avoid repetition of digits or their arrangement, or emphases and punctuations which would aid in the reproduction.

The patient then is given a simple story to read and asked to reproduce immediately the substance of the story. The "Cowboy Story" is useful:

> A cowboy from Arizona went to San Francisco with his dog, which he left at a dealer's while he purchased a suit of new clothes. Dressed finely, he went to the dog, whistled to him, called him by name and patted him. But the dog would have nothing to do with him in his new hat and coat but gave a mournful howl. Coaxing was of no effect, so the cowboy went away and donned his old garments, where upon the dog immediately showed his wild joy on seeing his master as he thought he ought to be.

CALCULATION. Without pencil and paper, unless the patient has too great difficulty, when the fact should be noted.

Use simple calculations, or at least calculations within the range of the patient's educational advantages and life opportunities as determined by the history—addition, subtraction, division, and multiplication of increasing complexity.

Serial subtraction—100 minus 7's is a most useful test. It requires keeping in mind the goal, retention of the last figure, and brings out slowing, late errors (fatigue), blocking, carelessness, or lack of appreciation of errors, tension, anxiety under load, etc. Ask the patient then to divide 100 by 7, and note if he gets the correct answer or the same fraction left over and if he notes any inconsistency.

GENERAL INFORMATION. Events of the day—newspaper items, political, economic, artistic, etc. Facts of geography, history (local, national, and international) within the probable range of the patient's opportunities and interests. We do not test to see how much the patient knows, but if he knows as much as he reasonably should. The list of questions will be adapted to the patients, and of course the answers must be known beforehand to the examiner.

JUDGMENT. Formally tested by discriminations as: "What is the difference between a mistake and a lie (dwarf and child, tree and bush, etc.)." Also by reference to the absurdities in the Binet-Simon fables for years X and XIV, etc.

Ask concerning the plans for the future, which elicits a more spontaneous performance.

In many adults and in all children, more exact knowledge concerning the intellectual level is desirable. Recourse may be had to any one of several "intelligence tests" which have been standardized as to method of administration and scoring of the results. For ordinary psychiatric work, the Stanford revision of the Binet-Simon test, or the Wechsler-Bellview test will be found very useful and practicable. For the best results with these tests considerable skill in obtaining coöperation of the patient and in interpreting the behavior during the test is necessary. A quantitative estimation of the intelligence is to be considered as adequate only when given under the optimal conditions. Poor rapport, physical distress, fear, environmental distractions are common vitiating factors and should always be noted in the body of the test.

In children, the intelligence scoring may be compared with the scholastic record. Special difficulties in reading, writing, or calculation are frequently discovered in applying the tests.

Insight. Under this heading we get the verbatim statement of the patient's summing up or formulation to himself of his present situation. There are many instances when the physician's use of the word "sick," or "ill" will meet with an uncoöperative attitude. The questioning had best proceed then from the most casual beginning:

What do you think about all this you have told me?
How do you explain your present situation?
Is anything wrong with you?
What?
What do you think is the matter with you?
What would you say was the nature of your trouble?

When things do not go right with us, we naturally look about for explanations. Have you come to any conclusions concerning yourself (this situation you find yourself in)?

Do you consider yourself as any different now from what you have always been?

How do you explain the interest (concern) of your family (friends) in wanting this examination made? (When the patient has denied anything being amiss.)

Are you sick?

Summary of the Direct Examination. At this point summarize briefly the facts which seem to be of significance in the direct examination for their natural hanging together, or for their inconsistency or incongruity. Compare these findings with the points of interest in the history for their similarities and incongruities, and the understanding gained in view of their developmental story in an experimental formulation of the material. Note what gaps are present, and keep them in mind for future investigation, through additions to the history or the mental status.

THE LABORATORY EXAMINATION

It is important that the physical examination be reinforced by laboratory studies. The types and number of laboratory procedures indicated will vary according to the total health picture presented by the patient. It seems advisable to do routine chest x-ray on all patients who present marked weight loss, and spinal fluid studies should be made in all patients with major psychotic symptoms. In general the principles to be recommended are those of good scientific medicine, making any and all laboratory examinations indicated, but avoiding unnecessary procedures motivated by a desire to make an impressive chart full of normal reports.

CONTRIBUTORY EXAMINATIONS

This leads directly into highly technical fields, for the most part still problems in research, but often with great practicability. Special mention should be made of the skin resistance, the blood-cerebrospinal fluid barrier index, the Jung free association test, the Luria motor association test, the Rorschach test, dream analysis, productions under hypnosis, etc.

In our work the association motor technique, the Rorschach test and intravenous amytal interviews, more recently called narcosynthesis, have proved of particular value. The motor association test and apparatus is described in detail in the section on psychoneuroses. The technique for amytal interviews is too well known to warrant detailed discussion at this time. In brief the technique consists of the slow administration of amytal or some similar preparation by vein to a point of lethargy and "grogginess." During the period of induction a patter of conversation along neutral lines of interest should be maintained. When the speech becomes thick and the patient develops slips of the tongue and momentary lapses probings into the conflict material and amnesic or willfully withheld material may be started. During this phase much can be accomplished by the use of direct and positive suggestion, by reliving conflict situations, with formulation of better ways of adaptation to these situations. Caution is necessary to avoid overdosage with a resultant sleep and inability to respond to questions.

The Rorschach test is one of the most valuable contributory examinations. It gives information concerning the patient's basic personality configuration, his capacity for control, and offers a quick yet surprisingly accurate means of determining what the patient has to react with in terms of instinctual drives, affective control, type and quality of intellect, intellectual capacity, manner of approach to problems and the nature and quality of his conflict material. In skilled hands it enables one to predict with some certainty what the individual's behavior would be in a given situation. In clinical practice it is of definite value in the differential diagnosis of difficult cases although this is the least valuable of its many uses. The technique of administration is simple but the interpretation rather complex. Those interested are referred to the excellent works of Rorschach, Klopfer, Beck and the members of the Rorschach Institute. Special training in the use of this method may be obtained in certain teaching centers in this country. Such training is necessary for successful utilization of the test.

The contributory examinations provide for special examinations, including eye, ear, throat, nose, sinuses, dental, skin, genitourinary, and gynecologic, as indicated. There should be no hesitancy in calling for adequate consultation with all of the other fields of medicine.

SUMMARY

There should be a complete summary made of the indirect, direct, and contributory examinations. These summaries constitute an abstract along with detailed progress notes describing the course in the hospital. This complete abstract should close with a formulation.

Muncie's outline of the formulation is as follows:

1. The essential descriptive character of the leading and incidental lines of behavior as reactions to life situations.
2. The degree of involvement (and the degree of preservation of normal functioning).
3. The etiologic factors: those more and those less directly concerned; the more and the less obvious to the patient and to the physician.
4. The immediate therapeutic need and the opportunities for management.
5. The gaps in the understanding, and treatment possibilities which must await further information.

An example of a typical preliminary formulation of a case is as follows:

Formulation to Clinic. F. S. The patient is a 33-year-old housewife. The complaints are nervousness, apprehension, crying, and suicidal brooding. The background reveals a child suffering from enuresis, nail biting, fears, and oversensitiveness, who carried her neuropathic traits into her adult life. There is associated lifelong feelings of inadequacy caused by feelings of marked inferiority to an older and precocious sister, and an unhappy foster home. The onset of the present illness was in 1929, the early symptoms being worry and weeping over financial losses with gradually increasing tension through the years. The outstanding findings on admission were self depreciation, fear of being alone, worry over finances, suicidal brooding, tension over her sexual life, ideas of reference, loss of 20 lbs. in weight, sleep disturbance, loss of appetite and constipation. The laboratory findings were of no consequence. There have been two previous attacks, one in 1922 and one in 1923, during a long period of marital infelicity which terminated in a divorce. Each attack was precipitated by an abdominal operation. There have been two more operations during the present marriage, a laparotomy in 1928 and a tonsillectomy in 1929, both because of abdominal complaints and a severe dysmenorrhea.

The psychogenic factors are: a person of inadequate personality who contracted an unhappy marriage. She formulated her difficulties in physical terms, and as a result became the victim of injudicious surgery which in turn precipitated an agitated depressive state. This formed a reaction pattern which has been followed with almost photographic accuracy on the two subsequent occasions when life situations have become intolerable. The present illness was precipitated by severe tension due to poor sexual adjustment.

The case as outlined presents the picture of a recurrent depression.

The purpose of the formulation is to summarize and stress the genetic-dynamic factors in the particular patient under consideration. In each case the gradual evolution of the problem must be understood by both patient and physician. In our work we find three additional methods of organizing the material of value in many cases.

GRAPHIC SUMMARIES

Life Chart. The longitudinal approach devised by Adolf Meyer is self-explanatory. The formula in Fig. 1 represents a schizophrenic reaction showing the development of the schizophrenic process from the earliest stages when treatment should have been instituted. It can readily be seen that in the study of a psychosis through the genetic-dynamic approach the patient's present difficulties or symptoms are not the only or even the main objectives for study, but are only one part of the large series of things which later must be studied from the earliest beginnings and dealt with as a whole.

I. + S. Chart. The second graphic method of study of mental disorder has been developed in the clinic of one of the authors, and is termed by the student the I plus S equation which represents a cross section of behavior taken at any significant period of an individual's life. The first graphic presentation deals with behavior primarily in its genetic aspects and relationships and evolution of reaction patterns. The second deals primarily with the dynamic aspects of behavior, showing it as a reaction to specific situations. We feel that these methods are of fundamental importance to the physician and the student in the understanding of mental disorders, and that they offer in a compact, understandable form a fairly accurate presentation of the case history in all of its aspects. Records of this type are invaluable from the standpoint of teaching psychiatry, and they are essential to demonstrate effectively the rationale of each therapeutic measure undertaken and the results obtained from it. The value to the physician of such a formulation of the case graphically lies in the fact that his attention is immediately directed toward the factors of the individual's make-up or the situations which may be modifiable or correctable. The etiology of a psychiatric case is often as definite and clear-cut as the etiology of other forms of illness. A great degree of individual variation in the forms of human behavior renders it imperative that the etiology be worked out individually in each separate case.

Personality Study. A third type of study which is of invaluable aid to the understanding of an intelligent patient is the autobiography or the planned personality study. The student is urged to learn to study his own personality as a preparation for the study of patients. We feel that a personality study is indispensable for good teaching. It is not the scope of this book to reproduce the complete plan but the practical guide for such study as devised by Adolf Meyer is presented in Billings' "Handbook of Psychobiology and Psychiatry" and in Muncie's "Psychobiology and Psychiatry."

The outline used in the clinic of one of the authors has the following headings:

1. General personality survey.
2. Special analysis of the psychobiological assets.
3. Range and fluctuation of fitness with regard to work, play, rest and sleep.
4. Social relations and the relative role of self-dependence and social dependence.
5. Sex development.
6. The synthesis and balance of the personality.

CASE NUMBER: 3291. M. L. White, Female, Age 42. Single, File Clerk. Schizophrenic Reaction Type.

HEREDITY: Father and mother rather reticent and high strung. Patient fifth of eight children, all living and well, with no significant history.

YEAR:			**BIRTHDAY:** November 6th	*Age*
1886		Gestation and birth uneventful.	Denver, Colorado.	
1887		Early development normal.		1
1889		Fear reactions. *Afraid of the dark.*		3
1892		*Afraid of thunderstorms and high places.*	Started school.	6
1894	Chickenpox.	*Blue spells.*		8
1896		*Tense, anxious, insecure.*		10
1897	Measles.	*Had to have bed just so or she could not sleep.*		11
1898		Sex curiosity. *Beginning of rituals.*		12
1899		*Overtidy.*		13
1900	Measles (?)	*Always looked under bed at night.*	Graduated from 8th grade.	14
1901		Stayed out of school to help mother, in poor health.		15
1902	Onset of menses.	Went out with boy once.	Started high school.	16
1903		Thought that people talked about her.		17
1904	Dysmenorrhea.	Stepped to avoid cracks in sidewalk.		18
1905		*Anxiety, fears, rituals, prudishness.*	High school graduation.	19
1906		Hated shady jokes. *Definitely psychasthenic.*	Post graduate review.	20
1907		Got teacher's certificate. Taught 3 months.	Teaching.	21
1908		*Taught* 8 *months. Lacked confidence.*		22
1909		Went east with sister. Liked it.	Pittsburgh, Pa.	23
1910		Thought family needed her, came home. *Saleswoman, failed. Began withdrawal to world of phantasy.*	Denver. Taught 3 mos. Cashier in grocery store.	24
1911		*Went out a few times with a man. He quit. Patient very disappointed.*	Changed employment. Worked as file clerk.	25
1912		*Prudish and feelings easily hurt.*	Bookkeeper at dry goods store.	26
1913		*Ill at ease with other girls in the office.*	File clerk for merchant.	27
1914		*Took up Christian Science. Mystical interest.*	Father died.	28
1918		*Head of department.* Thought self unworthy. Quit.		32
1919		Christian Science treatment for throat and nerves.		33
1921		Autistic love affairs. "*Felt crazy about men.*" *Tried to flirt with them.*	Many employment changes, 3 jobs in 6 months.	35
1922		*Feared dirt. Thought people were talking about her and watching her. Delusions of being watched.*		36
1923		*Thought people watched her by television. Receiving messages.*		37
1924		Thought something terrible was going to happen.	Visited in California.	38
1925		*Outbursts of anger at times. Thought self worked on sexually. Fear reactions and rituals.*		39
1926		*Washed hands frequently. Nightmares.*		40
1927		*Thought food was poisoned and ate little. Very worried and anxious.*		41
1928		*Washed hands constantly. Thought people watched her by television and scolded her by telepathy.*		42
1929		*Refused to bathe because she was watched.* Burned clothes. Improved after 5 weeks hospital treatment.	Admitted to Colo. Psychopathic Hospital.	43

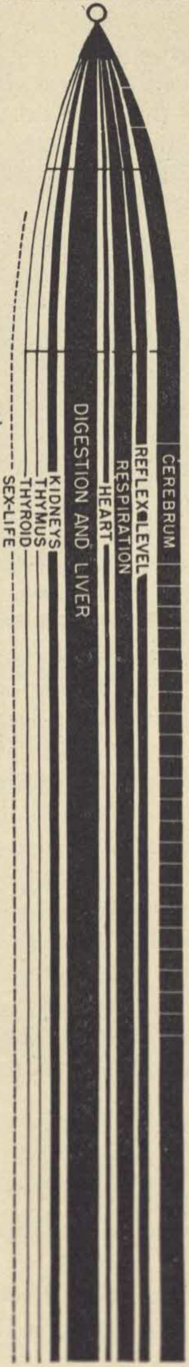

FIG. 1.

Case 10091

UNIVERSITY OF COLORADO SCHOOL OF MEDICINE AND HOSPITALS
COLORADO PSYCHOPATHIC HOSPITAL

Main Facts

Pt. a 28-year-old, married white female admitted 60 days postpartum with the complaint that the desire to kill her children constantly recurs. She is frightened by these ideas, but cannot rid herself of them. Considering suicide as an escape and as a means of preventing herself from injuring her children.

Reaction Type

Psychoneuroses, obsessive type.

Individual Make-up *Plus* *Situation* *Equals* *Reaction*

A. Physical:
1. Body habitus: Pyknic.
2. Physical defects: None.
3. General health: Good.

B. Intellect:
1. Level of performance:
    (a) School: High school, good.
    (b) Work: Good, runs dairy.
2. I.Q. Binet—105.

C. Instincts:
1. Self-preservation: Strong.
2. Sex drive: Good, well directed.
3. Herd: Strong desire to dominate.

D. Emotions:
1. General emotional tone: Cheerful, happy.
2. Stability: Poor, tends to periods of irritability and sadness.

E. Personality Pattern:
1. Degree of organization: Good.
2. Type of response to environmental stress: Aggressive.
3. Special interests and ambitions: Interested in expanding business.
4. Amount and efficiency of drive toward goals: Unusually good.
5. Personal habits: Neat, clean, energetic.
6. Social habits: Friendly, outgoing, a leader.
7. Religious habits: Very little interest.

F. Heredity:
Good. Irish-German stock.

A. Toxic Factors:
Illness developed in setting of pregnancy and delivery, but there were no toxic symptoms.

B. Organic Factors:
None.

C. Psychogenic Factors:
1. Much humoring in childhood.
2. Fear and anxiety about father, with over-dependence on mother.
3. Failure to emancipate.
4. Seduction by brothers ages 10–11.
5. Resultant protest and aggression toward men.
6. Conflict between business ambitions and marital responsibilities.
7. Birth of second female child when boy was wanted.

Recommendations:
1. Treatment of physical factors: None indicated.
2. Psychotherapy: Distributive analysis with careful direction and synthesis.
3. Modification of Environment:
    (a) Emancipation from mother.
    (b) Lessened responsibility in the business.
    (c) Cultivation of interest in children.
4. Follow-up therapy through general practitioner and community clinic: Frequent interviews aid patient to adjustment in new routine.

A. Reaction Type:
Psychoneuroses, obsessive type.

Brief Symptomatic Description of Illness:

Friendly, dominant, aggressive individual who developed obsessive thinking in a setting of conflicts over marital responsibility and business ambitions with disappointment over the sex of her second child.

Results:

Marked improvement. Patient keeping house, allowing husband to manage the business. Still desires male child. Still aggressive.

FIG. 2.

7. Difficulties and handicaps.
8. Specific disappointments and reactions to them.
9. Assets and tendencies, favorable and detractive, traceable to: (a) Heredity, (b) developmental defects, and (c) external influences.
10. An enumeration of the events, experiences, and situations in life which constitute special dynamic complexes or determining tendencies, in the form of an index of the significant results of the personality study.

The organization of the material into a formulation leads the student to consideration of the diagnostic group to which this patient belongs. The classification of the mental disorders is at present undergoing an important change. Increased emphasis is being placed on the etiologic and prognostic factors rather than the diagnostic pigeonhole in each case.

CLASSIFICATION

In various ways in teaching, we have striven to combat static, sterile, pigeonholed diagnostic thinking. For instance, we have suggested that after thorough study, each patient be subjected to the following formula:

$$\frac{P + S}{R} = R_1, R_2, R_3, R_4, R_5, \text{etc.}$$

P, Predisposition, expresses the sum total of ancestral and personal liabilities, existing at the beginning of the illness, the somatopsychic liabilities accumulated from the experiences and reactions between patient and environment.

S, Stress, is not only single, acute, terrific stresses, like the accidental death of a dearly beloved husband, wife, or child, under horrible circumstances, but also, and more significantly, long-continued stresses, inescapable, "rat-trap" life situations.

R, Resistance, is the sum total of the personality strengths and victorious reactions to the environment and also its favoring conditions.

The varying levels of R, the Reaction (R_1, R_2, R_3, R_4, R_5, etc.), psychotic or psychoneurotic, equals Predisposition plus Stress divided by Resistance, and they express both the severity of the reaction and the chances for recovery.

Nosology is necessarily inexact. Exact and comprehensive classification depends on proved and irrefutable knowledge of causation, pathology and even symptomatology. Medicine is an art and not a science, and there are enough deficiencies in the information we possess to prevent irreproachable classification of disease. Perhaps this is particularly true in psychiatry. There is a respectable body of information, but unfortunately it is more or less heterogeneous and therefore cannot be a uniform basis for classification. For instance, paresis is a clearly understood condition, not only in its etiology but also in its pathologic and clinical pictures. On the other hand, we are still waiting for light to be focused on the etiologic agents and possible morbid changes in schizophrenia, although we are beginning to understand the significance of some of its chief symptomatic mechanisms. Yet paresis and schizophrenia constitute numerically more than one third of all psychoses, and must be included in any list of mental diseases.

Simplicity is always a virtue. The following tentative classification is an attempt to reduce the list of psychoses to three groups in which etiology is fairly clearly understood.

A. Organic Psychoses.

B. Toxic Psychoses.

C. Psychogenic Functional Psychoses.

Under A would be included all instances in which there is actual brain damage demonstrable, of which paresis and senile dementia would be examples. In this connection one should remember that 10 per cent of mental disease is caused by some form of neurosyphilis, which is treatable. Group B would consist of cases in which the abnormal mental phenomena were called forth in response to a toxic agent whether it is hypothetical or demonstrable. The group has a clinical entity because of the similarity of symptoms and signs exhibited. A careful differential diagnosis is necessary to establish the etiologic agent. Delirium is a classical example of this group, whether it be due to exogenous agents like bromides, alcohol, or other drugs, acute infections and fevers, industrial poisons, etc., or to endogenous agents due to metabolic or endocrine disturbance. We try to establish metabolic and endocrine disturbance objectively by the regular laboratory examinations in order to avoid making glib use of these disturbances as a cause when other factors are really at fault. Deliria due to infections like pneumonia, typhoid, etc., are very common, especially in children, and are really a problem of differential diagnosis in internal medicine. Deliria may, however, also be due to organic and psychogenic causes as will be seen from the following sample list: deliria due to traumatic causes; deliria in acute chorea; deliria due to cardiovascular-renal disease; deliria in Korsakoff's syndrome; deliria in senile dementia; deliria in hysterical states and schizophrenia; deliria in exhaustion states from whatever cause. Under C would be placed all psychoses in which constant organic and toxic factors have not been ascertained, as in the schizophrenic reaction types, manic-depressive reaction types and typically in the psychoneuroses and in a large segment of so-called psychosomatic disorders.

There are a number of objections to this classification scheme. In the first place a toxic, and even occasionally an organic aspect, may be a striking part of the clinical picture of a so-called functional psychosis. A chronic toxic state may eventually simulate an organic state. Furthermore, in the present status of our knowledge the designation "functional" is not entirely justified since it is based on theory and not on fact. Finally, the student is not given any conception of the considerable number of psychoses which are certainly to be recognized as clinical entities in actual practice.

Complexity Is Objectionable. The classification of Emil Kraepelin, the "master mind" of objective psychiatry, has this fault. Every student of psychiatry is deeply in his debt for his remarkably accurate descriptions of patients and their symptoms, but unfortunately he had a passion for minute subdivision which makes his classification confusing. For instance, he has described no less than eleven varieties of schizophrenia. The impression given is erroneous for after all what is needed is an understanding of the essentials of the disease process and not a detailed memory for numerous slight deviations from the usual types.

We have found the following seven reaction types, revised from Adolf Meyer, the most useful for our daily work in the hospital. This is a geneticdynamic classification taking into account the patient's underlying personality.

GENETIC-DYNAMIC CLASSIFICATION

A. Organic Reaction Types
B. Delirious Reaction Types (Toxic Psychoses)
C. Paranoid Reaction Types
D. Affective Reaction Types (Manic-depressive or Reactive)
E. Schizophrenic Reaction Types (Dementia Precox)
F. Primary Constitutional Reaction Types
G. Psychoneurotic Reaction Types (Minor Psychoses)

Organic Reaction Types:

1. MENINGOENCEPHALITIC LUES (GENERAL PARESIS).
2. SENILE DETERIORATION.
3. CEREBRAL ARTERIOSCLEROSIS.
4. TRAUMATIC PSYCHOSES.
5. EPILEPSY.
6. PSYCHOSES WITH NEUROLOGIC DISORDERS.

Delirious Reaction Types (Toxic Psychoses):

1. ALCOHOLIC PSYCHOSIS.
2. PSYCHOSIS DUE TO DRUGS AND OTHER EXOGENOUS TOXINS.
3. PSYCHOSIS WITH SOMATIC DISEASES.

Paranoid Reaction Types.

Affective Reaction Types (Manic-depressive or Reactive):

1. DEPRESSION.
2. EXCITEMENT.

Schizophrenic Reaction Types (Dementia Precox).

Primary Constitutional Reaction Types:

1. PSYCHOPATHIC INFERIOR.
2. MENTAL DEFICIENCY.

Psychoneurotic Reaction Types (Minor Psychoses):

1. HYSTERIA.
2. ANXIETY STATES.
3. OBSESSIVE-COMPULSIVE-RUMINATIVE-TENSION STATES.

Classification in General Use. Since it is much used by psychiatrists, particularly in mental hospitals, the American Psychiatric Association Classification is reproduced. This classification was recently (Nov. 1950) adopted by the Council of the American Psychiatric Association, on recommendation of its Committee on Nomenclature and Statistics. It has been recommended to the editors of the Standard Nomenclature of Disease for inclusion in their new edition.

Topography

- Psychobiologic unit
  - Psychobiologic unit, generally
  - Integumentary psychobiologic section
  - Musculoskeletal psychobiologic section
  - Respiratory psychobiologic section
  - Cardiovascular psychobiologic section
  - Hemic and lymphatic psychobiologic section
  - Digestive psychobiologic section
  - Urogenital psychobiologic section
  - Endocrine psychobiologic section
  - Nervous psychobiologic section
  - Organs of special sense psychobiologic section

Diseases of the Psychobiologic Unit

Mental Disorders Caused by or Associated with Impairment of Brain Tissue Function

Acute Organic Brain Disorders

Disorders due to or associated with infection
Acute Brain Syndrome associated with intracranial infection (Specify infection)
Acute Brain Syndrome associated with systemic infection (Specify infection)
Disorders due to or associated with intoxication
Acute Brain Syndrome, drug or poison intoxication (Specify drug or poison)
Acute Brain Syndrome, alcohol intoxication
  Acute hallucinosis
  Delirium tremens
(1) With psychotic reaction
(2) With neurotic reaction
(3) With behavioral reaction

The above qualifying phrases may be added to any diagnosis in the Psychobiologic Unit when needed to further define or describe the clinical picture. They will not be used where such use is redundant. In general, the phrase will be redundant when it repeats the major heading of any group of diagnosis, for example:

(1) is redundant when used with a diagnosis listed under Psychotic Disorders
(2) is redundant when used with Psychoneurotic Disorders
(3) is redundant when used with Personality Disorders
Disorders due to or associated with trauma
Acute Brain Syndrome associated with trauma (Specify trauma)
Disorders due to or associated with circulatory disturbance
Acute Brain Syndrome associated with circulatory disturbance (Indicate cardiovascular disease as additional diagnosis)

Disorders due to or associated with disturbance of innervation or of psychic control
Acute Brain Syndrome associated with convulsive disorder
Disorders due to or associated with disturbance of metabolism, growth or nutrition
Acute Brain Syndrome with metabolic disturbance (Specify)
Disorders due to or associated with new growth
Acute Brain Syndrome associated with intracranial neoplasm (Specify)
Disorders due to unknown or uncertain cause
Acute Brain Syndrome with disease of unknown or uncertain cause (Indicate disease as additional diagnosis when known)

**Chronic Organic Brain Disorders*

Disorders due to prenatal (constitutional) influence
Chronic Brain Syndrome associated with congenital cranial anomaly (Specify anomaly)
Chronic Brain Syndrome associated with congenital spastic paraplegia
Chronic Brain Syndrome associated with Mongolism
Chronic Brain Syndrome due to prenatal maternal infectious diseases
Disorders due to or associated with infection
Chronic Brain Syndrome associated with central nervous system syphilis (Specify as below)
Meningoencephalitic
Meningovascular
Other central nervous system syphilis
Chronic Brain Syndrome associated with intracranial infection other than syphilis (Specify infection)
Disorders associated with intoxication
Chronic Brain Syndrome, associated with intoxication (Specify)
Chronic Brain Syndrome, drug or poison intoxication (Specify drug or poison)
Chronic Brain Syndrome, alcohol intoxication (Specify reaction when known)
Disorders associated with trauma
Chronic Brain Syndrome associated with birth trauma
Chronic Brain Syndrome associated with trauma (Specify as below)
Chronic Brain Syndrome, brain trauma, gross force (Specify) (Other than operative)
Chronic Brain Syndrome following brain operation
Chronic Brain Syndrome following electrical brain trauma
Chronic Brain Syndrome following irradiational brain trauma
Disorders associated with circulatory disturbances
Chronic Brain Syndrome associated with cerebral arteriosclerosis
Chronic Brain Syndrome associated with circulatory disturbance other than cerebral arteriosclerosis (Specify)
Disorders associated with disturbance of innervation or of psychic control

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* The qualifying phrase "Mental Deficiency" (mild, moderate or severe) should be added at the end of the diagnosis in disorders of this group which present mental deficiency as the major symptom of the disorder.

Chronic Brain Syndrome associated with convulsive disorder
Disorders associated with disturbance of metabolism, growth or nutrition
Chronic Brain Syndrome associated with senile brain disease
Chronic Brain Syndrome associated with other disturbance of metabolism, growth or nutrition (Includes pre-senile, glandular, pellagra, familial amaurosis)
Disorders associated with new growth
Chronic Brain Syndrome associated with intracranial neoplasm (Specify)
Disorders associated with unknown or uncertain cause of hereditary and familial conditions
Chronic Brain Syndrome associated with diseases of unknown or uncertain cause (Includes multiple sclerosis, Huntington's chorea, Pick's disease and other diseases of a familial or hereditary nature) (Indicate disease by additional diagnosis)

Mental Deficiency

Disorders due to unknown or uncertain cause with the functional reaction alone manifest; hereditary and familial diseases of this nature
Mental deficiency (familial or hereditary)
  Mild
  Moderate
  Severe
Disorders due to undetermined cause
Mental deficiency, idiopathic
  Mild
  Moderate
  Severe

Disorders of Psychogenic Origin or Without Clearly Defined Physical Cause or Structural Change in the Brain

Psychotic Disorders

Disorders due to disturbance of metabolism, growth, nutrition or endocrine function
Involutional psychotic reaction (Specify type)
Disorders of psychogenic origin or without clearly defined tangible cause or structural change
Affective reactions
  Manic depressive reaction, manic type
  Manic depressive reaction, depressive type
  Manic depressive reaction, other (Specify)
  Psychotic depressive reaction
Schizophrenic reactions
  Simple type
  Hebephrenic type
  Catatonic type
  Paranoid type
  Acute undifferentiated type
  Chronic undifferentiated type
  Schizo-affective type
  Childhood type
  Residual type
Paranoid reactions

  - Paranoia
  - Paranoid state
- Psychotic reaction without clearly defined structural change, other than above

Psychophysiologic Autonomic and Visceral Disorders

- Disorders due to disturbances of innervation or of psychic control
- Psychophysiologic skin reaction (Indicate manifestation by Supplementary Term)
- Psychophysiologic musculoskeletal reaction (Indicate manifestation by Supplementary Term)
- Psychophysiologic respiratory reaction (Indicate manifestation by Supplementary Term)
- Psychophysiologic cardiovascular reaction (Indicate manifestation by Supplementary Term)
- Psychophysiologic gastrointestinal reaction (Indicate manifestation by Supplementary Term)
- Psychophysiologic genito-urinary reaction (Indicate manifestation by Supplementary Term)
- Psychophysiologic endocrine reaction (Indicate manifestation by Supplementary Term)
- Psychophysiologic asthenic reaction (Indicate manifestation by Supplementary Term)
- Psychophysiologic reaction, other (Indicate manifestation by Supplementary Term)

Psychoneurotic Disorders

- Disorders of psychogenic origin or without clearly defined tangible cause or structural change
- Psychoneurotic reactions
  - Anxiety reaction
  - Dissociative reaction
  - Conversion reaction
  - Phobic reaction
  - Obsessive compulsive reaction
  - Depressive reaction
  - Psychoneurotic reaction, other

Personality Disorders

- Disorders of psychogenic origin or without clearly defined tangible cause or structural change
- Personality pattern disturbance
  - Inadequate personality
  - Schizoid personality
  - Cyclothymic personality
  - Paranoid personality
- Personality trait disturbance
  - Emotionally unstable personality
  - Passive-agressive personality
  - Compulsive personality
  - Personality trait disturbance, other
- Special symptom reaction
  - Learning disturbance
  - Speech disturbance

  - Enuresis
  - Somnambulism
  - Other (Specify)
- Sociopathic personality disturbance
  - Antisocial reaction
  - Dyssocial reaction
  - Sexual deviation (Specify Supplementary Term)
  - Addiction
    - Alcoholism
    - Drug addiction
- Transient situational personality disturbance
  - Gross stress reaction (Specify stress)
  - Adult situational reaction
  - Adjustment reaction of infancy
  - Adjustment reaction of childhood
    - Habit disturbance
    - Conduct disturbance
    - Neurotic traits
  - Adjustment reaction of adolescence
  - Adjustment reaction of late life

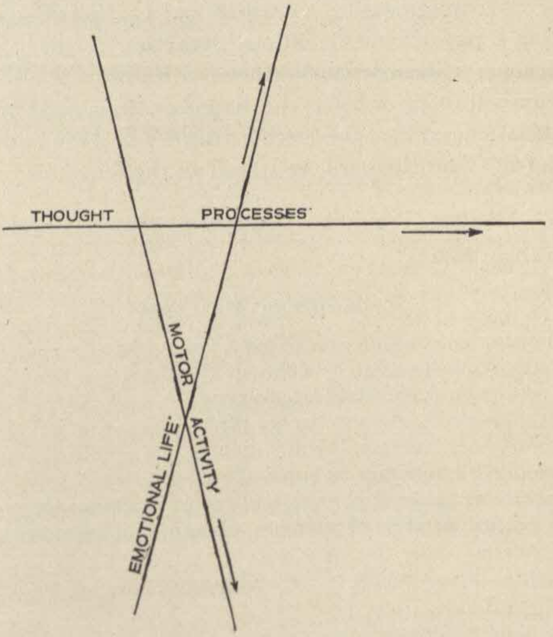

FIG. 3. Illustrating incongruity of basic symptoms in dementia precox.

One of us had the privilege of participating in the conferences which eventuated in the adoption of both the Army and Navy nomenclatures. Each of these has definite advantages. Furthermore, even though a nomenclature for military use must be guided in some degree by considerations of a military nature, yet both the Army and Navy lists contain valuable lessons for civilian psychiatry. For one thing, there is an attempt to present diagnosis as a dynamic concept, thus stimulating greater therapeutic energy. The diagnostic formula recognized the importance of the precipitating factors, of the rapidity of improvement and of predisposition. At least there is an effort to escape from too static diagnostic labeling. These are some of the reasons that prompted us to include the Army nomenclature. We hope that free and thorough discussion will be stimulated.

Together with the explanatory notes, we reproduce the Armed Forces Medical Department nomenclature as of April 1, 1949.

In setting up the definitions of psychiatric conditions, the term disorder has been used for the designation of the generic group of the specific reactions, while the specific reaction types have been termed "reactions." In classifying psychoneuroses, the dynamics of psychopathology was chosen as the basis. Of necessity, a few terms remained descriptive (symptomatic). In general, an attempt has been made to retain only such formerly used terms as could be fitted into this general plan and omit categories which we "catch all," such as "simple adult maladjustment," "constitutional psychopathic state," etc.

In recording a psychiatric condition ("reaction") will be specified, and not its generic form ("disorder"). Whenever a reaction is subclassified, only the subcategory will be recorded as the diagnosis. In general, only the lowest applicable subclassification of the specific disorder as given in the list of terms under Psychiatric Conditions will be stated as the diagnosis.

CLASS V—MENTAL, PSYCHONEUROTIC, AND PERSONALITY DISORDERS

A. Psychotic Disorders

SCHIZOPHRENIC REACTIONS

Schizophrenic reaction, simple type.
Schizophrenic reaction, hebephrenic type.
Schizophrenic reaction, catatonic type.
Schizophrenic reaction, paranoid type.
Schizophrenic reaction, latent.
Schizophrenic reaction, n. e. c.
  Specify as acute or chronic, and report predominant symptomatology, as confusion, ideas of reference, elation, and excitement, etc.

AFFECTIVE REACTIONS

Manic-depressive reaction.
  Specify as manic, depressive, stuporous, circular, agitated, with schizophrenic coloring, or mixed.
Psychotic depressive reaction.
Melancholia, involutional.

PARANOID REACTIONS

Paranoia.
Paranoid state.

B. Psychiatric Disorders with Demonstrable Physical Etiology or Associated Structural Changes in the Brain

Disorders, psychotic, with demonstrable physical etiology or associated structural change in brain
  Qualify as schizoid, paranoid, depressed, manic, confused, anxious, agitated, panic, delirious, or apathetic.
Disorders, mental, nonpsychotic, with demonstrable physical etiology or associated structural change in brain.
  Specify predominant manifestations.

C. Psychoneurotic Disorders

Anxiety reaction.
Dissociative reaction.
  Specify manifestations, as depersonalization, dissociated personality, stupor, fugue, amnesia, etc.
Conversion reaction.
  Specify manifestations as anesthesia (anosmia, blindness, deafness), paralysis (paresis, aphonia, monoplegia), or dyskinesia (tic, tremor, postures, catalepsy).
Phobic reaction.
  Specify manifestations.
Obsessive-compulsive reaction.
  Specify manifestations, as touching, counting, ceremonials, handwashing, etc.
Neurotic depressive reaction.

Somatization Reactions

Psychogenic cardiovascular reaction.
  Specify predominant manifestations.
Psychogenic gastrointestinal reaction.
  Specify predominant manifestations.
Psychogenic respiratory reaction.
Psychogenic genitourinary reaction.
Psychogenic skin reaction.
  Specify predominant manifestations.
Psychogenic musculoskeletal reaction.
Psychogenic asthenic reaction.
Psychogenic reactions affecting other systems.
  Specify system and predominant manifestations.
Hypochondriacal reaction.

D. Character and Behavior Disorders

Pathologic Personality Types

Schizoid personality.
Paranoid personality.
Cyclothymic personality.
  Specify as hypomanic, depressed, or alternating.
Inadequate personality.
Antisocial personality.
Asocial (amoral) personality.

3206. Sexual deviate.
  Specify as overt or latent, and type of behavior as homosexuality, pedophilia, sexual sadism, etc.

IMMATURITY REACTIONS

Emotional instability reaction.
Passive-dependency reaction.
Passive-agressive reaction.
Aggressive reaction.
Immaturity with symptomatic habit reaction.
  Specify particular habit, as enuresis, speech disorder, etc.
Alcoholism.
  (Not to include simple drunkenness or acute poisoning due to alcohol.)
Addiction.
  Specify drug.
Primary childhood behavior reaction.
  Specify manifestations, as night terrors, anxiety attacks, temper tantrums, etc.

E. Disorders of Intelligence

Mental deficiency, primary.
  State mental age and test used.
Mental deficiency, secondary.
  State mental age and test used.
Specific learning defect.
  Specify defect, as strephosymbolia, in reading, in mathematics, etc.

F. Transient Personality Disorders Due to Acute or Special Stress

Exhaustion, combat.
Maladjustment, situational, acute.
Other disorders of this class.
  State title.

CLASS VI—DISEASES OF THE NERVOUS SYSTEM

Hemorrhage, subarachnoid.
  State cause.
Hematoma, subdural.
  Specify region and cause.
Hemorrhage, cerebral, due to arteriosclerosis.
  Specify vessel.
Hemorrhage, cerebral, n. e. c.
  Specify vessel and cause.
Encephalomalacia.
  Specify region and cause.
Encephalopathy due to arterial hypertension.
  State principal symptomatic manifestation.
Encephalopathy due to arteriosclerosis.
  State principal symptomatic manifestation.
Meningitis, acute.
  Specify organism. (Not to include meningococcic, or tuberculous.)
Meningitis, chronic.
  Specify organism. (Not to include meningococcic or tuberculous.)

Pachymeningitis, chronic.
  Specify region and organism. (Not to include meningococcic or tuberculous.)
Adhesions, meningeal.
  Specify region and cause.
Thrombosis, meningeal vessels.
  Specify vessel and cause.
Abscess, brain.
  Specify location and organism.
Abscess, epidural.
  Specify location and organism.
Abscess, spinal cord.
  Specify region and organism.
Abscess, subdural.
  Specify location and organism.
Encephalitis, acute.
  State cause. (Not to include Encephalitis, infectious, acute (0821).)
Encephalitis, chronic
  Specify symptoms and cause.
Encephalomyelitis.
  Specify as acute or chronic, and state cause.
Encephalopathy due to trauma.
  State principal symptomatic manifestation and trauma.
Myelitis, ascending, acute (Landry's paralysis).
Myelitis, disseminated.
  Specify organism.
Myelitis, transverse.
  Specify level and organism.
Myelitis, n. e. c.
  Specify type and cause.
Hydrocephalus, acquired.
  State cause.
Sclerosis, multiple.
Paralysis agitans.
Cerebral spastic infantile paralysis (Little's disease).
  (Indicate symptomatic designation, as Monoplegia, Diplegia, etc.)
Paralysis, n. e. c.
  Specify region and cause.
Epilepsy, petit mal.
Epilepsy, grand mal.
Epilepsy, status convulsivus.
Epilepsy, psychomotor.
Narcolepsy.
Epilepsy, n. e. c.
  Specify type.
Migraine, cause unknown.
Chorea, progressive, chronic.
  Specify as hereditary or nonhereditary. (Not to include Chorea, Sydenham's (4520).)
Hepatolenticular degeneration.
  Specify type.
Sclerosis, hereditary.
  Specify type.

Atrophy, muscular, myelopathic.
  Specify as progressive or nonprogressive.
Paralysis, labioglossopharyngeal, progressive.
Sclerosis, amyotrophic lateral.
Sclerosis, primary lateral.
Atrophy, muscular, spinal, hereditary (familial).
Atrophy, muscular, progressive neuropathic (peroneal).
  Specify region.
Hematomyelia.
  Specify region and cause.
Myelopathy, transverse.
  Specify region and cause.
Syringobulbia.
Syringomyelia.
Myelopathy, n. e. c.
  Specify region and cause. (To include Compression of spinal cord.)
Neuralgia, geniculate.
Neuropathy of facial nerve (Bell's palsy).
  State cause.
Neuralgia, trigeminal.
  Specify division of nerve.
Neuralgia of sciatic nerve.
  State cause.
Guillain-Barré syndrome.
Neuritis, acute, multiple.
  State cause.
Radiculoneuritis, n. e. c.
  Specify multiple or roots and cause.
Erythredema polyneuropathy (Acrodynia).
Neuralgia, n. e. c.
  Specify nerve and cause.
Neuritis, acute.
  Specify nerve and cause.
Neuritis, chronic.
  Specify nerve and cause.
Compression of brachial plexus due to displacement (Scalenus anticus syndrome).
Compression of nerve, n. e. c.
  Specify nerve and cause.
Neuropathy, n. e. c.
  Specify nerve and cause.
Other disease of this class.
  State title.

MANNER OF RECORDING

Individual Medical Records

General. The reactions or specific types of psychiatric conditions (anxiety reaction; emotional instability reaction; schizophrenic reaction, simple type; etc.) are sufficiently well defined to justify their use apart from any generic terms indicating the broad disorder groups (psychoneurotic disorders; character and behavior disorders, immaturity reactions; psychoses without known organic etiology, schizophrenic disorders; etc.). In recording psychiatric conditions, only the lowest subclassification of the disorder will be specified, without being prefaced by any terms such as psychoneurosis or psychosis. Even though the list of terms includes the generic terms for the broad disorder groups, these will not be recorded as part of the diagnosis.

In each case the severity of the reaction will be recorded, and the reaction will be qualified as acute or chronic. The severity of a particular reaction should not be determined solely by the degree of ineffectiveness, since other factors, such as underlying defective attitude, other psychiatric or physical conditions, etc., may contribute to the total ineffectiveness.

Outstanding or conspicuous symptomatology may be added to any of the psychiatric diagnoses; manifestations must be reported for those reactions indicated in the list of terms as requiring such reporting.

Multiple Diagnoses: Psychiatric Reactions with Physical Disorders.

1. GENERAL. The general principle governing recording of all diagnoses will likewise apply to the selection of the first diagnosis in cases which involve psychiatric conditions. The immediate condition which was principally responsible for the initial admission is to be considered as the primary cause of admission and recorded as Dg. 1. In applying this general principle to cases involving psychiatric conditions, the following combinations may be considered.

2. UNRELATED DIAGNOSES. Physical and mental disorders may coexist but be causally unrelated. In such instances the two or more conditions will be listed as separate diagnoses with the primary diagnosis being selected on the usual basis. Example: (1) Diabetes mellitus; (2) mental deficiency, primary, etc.

3. RELATED DIAGNOSES. Physical and mental disorders may coexist and be causally related. Whether the two conditions are recorded as separate diagnoses or as only one depends on the nature of the conditions.

a. COMBINATIONS REQUIRING ONLY ONE DIAGNOSIS. In some instances, the mental reaction, though related, is not sufficiently developed as a clinical psychiatric entity to make a formal psychiatric diagnosis either necessary or indicated. For example, a patient with pneumonia may be apprehensive and tense; the mental status should be described in the clinical history or physical examination along with any other symptom or sign. Minor nonpsychotic mental reactions need be reported only thus; the individual medical record will carry only the nonpsychiatric diagnosis.

Definite pathologic mental reactions, other than well-defined clinical syndromes, may often be symptoms of organic disease of the brain, including trauma or intoxication. These include such instances as delirium of febrile reaction, intoxication with uremia, mental reactions with any systemic infection and with brain infection, neoplasm, trauma, degenerative disease, or vascular disease. As such, these conditions are to be regarded as symptoms of the physical condition.

Whenever such a mental reaction which does not constitute any of the well-defined clinical pictures is sufficiently pronounced to justify mention in the diagnosis, it will be recorded as a manifestation of the primary diagnosis. Since it does not constitute a well-defined clinical type, it will be specified as a nonpsychotic or psychotic reaction and amplified by one or more of the following descriptive terms as types: schizoid, paranoid, depressed, manic, euphoric, deteriorated, confused, anxious, agitated, panic, excited, delirious, apathetic, stuporous, specific behavior disorder. The degree of stress, predisposition and incapacity will not be listed. Examples: (a) Syphilitic meningoencephalitis, "old," etc.; manifested by psychotic reaction, confused; (b) epidemic encephalitis, acute, etc., manifested by nonpsychotic reaction, behavior disorder. There are other instances where physical and mental disorders coexist and where the physical disorder is a manifestation of the psychiatric condition rather than a separate condition. Where this is true, only the psychiatric condition should be listed as the diagnosis, and the physical condition should be shown as a manifestation thereof. Example: Psychogenic gastrointestinal reaction, chronic, severe, manifested by mucous colitis and hyperacidity.

b. COMBINATIONS REQUIRING SEPARATE DIAGNOSES. Physical and mental disorders may coexist and be causally related, with both conditions being sufficiently marked and well defined to justify separate diagnosis. In such cases, the causal relationship of the diagnoses should be indicated. The selection of the order of the diagnoses will depend upon which condition was first in the chain of etiology; the one which caused or directly led to the other will be selected as the first diagnosis. This order of diagnoses will be followed despite the fact that in most, if not all, cases the psychiatric symptomatology is related to personality factors existing prior to the physical disease or trauma. Example: (a) Fracture of skull, simple, depressed, left occipital area, etc.; (b) paranoid state, precipitated by skull fractures, etc.

c. MULTIPLE PSYCHIATRIC DIAGNOSES. If and when two separate psychiatric conditions exist, such as a psychopathic personality and a psychosis, both shall be recorded. If a diagnostic entity (which, if encountered as an isolated personality disturbance, would be recorded as the only diagnosis) is a part of a more extensive process or secondary to it, the primary diagnosis will be given, with the less important condition given as a manifestation of that diagnosis. Example: Anxiety reaction manifested by somnambulism; passive-aggressive reaction, manifested by enuresis (list other manifestations); asocial reaction type with sexual sadism.

Some psychiatric conditions, if established as the primary diagnosis are incompatible with certain other psychiatric diagnoses and will not be recorded as existing together. Examples: Psychoneurotic and psychotic reactions; acute situational maladjustment with psychoneurotic or psychotic reactions;

combat exhaustion with psychoneurotic or psychotic reactions. Many of these conditions may progress from one to another, but are not simultaneously present. Similarly, only one type of psychoneurotic or psychotic reaction will be used as a diagnosis, even in the presence of symptoms of another type. The diagnosis in such cases will be based on the predominant type, with a statement of manifestations including symptoms of other types of reaction, thus: "Anxiety reaction, with minor conversion symptoms, etc."

CLINICAL RECORDS

1. General. For certain conditions, the diagnosis of merely the type of reaction does not furnish sufficient information to determine disposition. Thus, for example, the term "anxiety reaction" does not convey whether the illness occurred in a previously normal or neurotic personality; it does not indicate the degree and nature of the external stress, nor does it reveal the extremely important information as to the degree of which the patient's functional capacity has been impaired. Therefore, for certain conditions as specified below, a complete diagnostic evaluation will be entered in the clinical records, including this information in addition to all of the requirements provided in (1) above for recording diagnoses on the Individual Medical Records. Each case so diagnosed will be evaluated from the following standpoints:

a. Type and severity of symptoms (diagnostic term recorded on Individual Medical Records)
b. External precipitating stress
c. Premorbid personality and predisposition
d. Degree of resultant incapacity (psychiatric disability)

The complete diagnostic evaluation for such cases will be recorded in the clinical records and dated in those situations and installations in which the medical officer has sufficient opportunity to evaluate the various points. When he does not have sufficient opportunity or information, he should so indicate with the term "unknown" or "not determined." It is extremely important that those medical officers in the field, such as the flight surgeon, the division psychiatrist, and the mental hygiene consultation psychiatrist, should indicate the external stress, even though they may not have the opportunity to determine predisposition.

In the utilization of this method of recording a diagnosis it is essential to recognize that the time element is all important; the diagnostic formulation on any particular date may (and, in many cases, should) be changed at a subsequent date. A soldier may show marked incapacity upon admission to a hospital, but a few days later can return to duty with minor or no impairment. The disorder diagnosis of any particular type will in no way determine disposition without consideration of the stress, the predisposition and the functional incapacity, in cases where these are to be reported. Heretofore, the disorder diagnosis was all important. Under the present system, it becomes only one of the four factors to be considered in determining disposition.

2. Conditions Requiring Complete Diagnostic Evaluation. The four points listed above will apply to the following diagnostic categories: the transient personality reactions to acute or special stress (combat exhaustion and acute situational maladjustment), all types of psychoneurotic disorders, the immaturity reactions, and the various types of schizophrenic, affective, and paranoid disorders. The stress, the predisposition and the degree of incapacity will not be outlined for the character and behavior disorders, except for immaturity reactions, mental deficiency, and psychotic reactions with organic etiology.

3. Requirements of Complete Diagnostic Evaluation. TYPE AND SEVERITY OF SYMPTOMS (THE DIAGNOSTIC TERM). The provisions above govern the recording of this first part of the four-part complete diagnostic evaluation. The diagnostic terms to be used have been defined and listed. The severity of reaction will be described by the appropriate word "mild," "moderate," "severe," and qualified as either "acute" or "chronic." Outstanding or conspicuous symptomatology may be listed.

Example: "Anxiety reaction, mild, chronic, manifested by loss of appetite and insomnia." Obscure, ill-defined and rarely used technical terms are to be avoided. If a reaction was severe and acute upon admission to a medical installation but improvement or recovery was effected with treatment, it will be recorded as "(type of reaction), acute, severe, improved, or recovered."

EXTERNAL PRECIPITATING STRESS. Under this heading the external stress is to be evaluated as to type, degree and duration. The stress will generally refer to the environmental situation, Army or otherwise, which is the direct cause of the reaction manifest in the patient. Unconscious internal conflicts will not be considered external stresses. The evaluation of the unconscious internal conflicts is important both in understanding the nature of the clinical picture and in determining a basis for treatment and for estimating prognosis. It is omitted here only because of the difficulty in its uniform formulation and the varying degrees of understanding of psychodynamics by medical officers practicing psychiatry in the Army.

The judgment of the military stress can be made most accurately by the medical officer in the patient's own unit, since living in the same environment qualifies him to judge the stress. The opinion of the individual's commanding officer may be of value. It may be more difficult for a hospital psychiatrist to evaluate the stress to which the individual has been subjected, and when the stress cannot be determined, it should be recorded as "unknown."

The degree of stress, whether that of combat, regimentation, training, isolation, or other type, must be evaluated in terms of its effect on the "average man" of the group, rather than on the patient. It should not be presumed that a particular environmental stress is severe because one or even several individuals react poorly to it, since these individuals may have had poor resistance to this stress. Stress will be classified as "severe"; "moderate"; and "minimal." Severe stress is such that the average man could be expected to develop disabling psychiatric symptoms when exposed to it. Minimal stress is such that the average man could be exposed to it without developing psychiatric symptoms. Examples of recording stress: "Severe stress of 60 days' continuous combat as a rifleman"; "severe stress of 30 hazardous combat missions"; "moderate stress of serious chronic domestic problems"; "stress unknown or not determined."

Premorbid Personality and Predisposition. The description of the predisposition will consist of a brief statement of the outstanding personality traits or weaknesses which have resulted from inheritance and development and an evaluation of the degree of predisposition based on past history and personality traits, recorded as "no predisposition"; "mild"; "moderate"; and "severe."

a. NO PREDISPOSITION EVIDENT. This description will be used when there is no evidence of previous personality traits or make-up which appear to be related to the patient's present illness, and when there is no positive history of psychoneurotic or other mental illness in his immediate family.

b. MILD PREDISPOSITION. This description will be used when the patient's history reveals mild transient psychologic (emotional) upsets and abnormal personality traits, or defect of intelligence which, however, did not significantly incapacitate the patient or did not require medical care. It will also be used when there is a past history of mental illness in the patient's family.

c. MODERATE PREDISPOSITION. This description will be used when the patient has a personal history of partially incapacitating psychologic (emotional) upsets or abnormal personality traits or defects in intelligence which resulted in his social maladjustment.

d. SEVERE PREDISPOSITION. This description will be used in the presence of the patient's definite history of previous overt emotional or mental illness or disorder.

Degree of Resultant Incapacity (Psychiatric Disability). The psychiatric disability represents the degree to which the individual's total functional capacity has been impaired by the psychiatric condition. This is not necessarily the same as ineffectiveness, and therefore the degree of incapacity reported should not be determined solely by the degree of ineffectiveness. Effectiveness in any particular job is a resultant of the individual's emotional stability, intellect, physical condition, attitude, training, etc., as well as the degree and the type of his psychiatric disability. Depending upon other circumstances, a man with a moderate psychiatric disability may be more effective than another man with a minimal disability. Degree of incapacity as used here refers only to ineffectiveness resulting from the current psychiatric disability.

The degree of disability at the time of original consultation or admission to the hospital will often vary from the degree of impairment after treatment.

Disability at the termination of treatment represents the residual or persistent impairment. It will be recorded as "none," "minimal," "moderate," "marked." The individual's capacity to perform military service will be used as the base line in estimating the degree of impairment.

a. NO IMPAIRMENT. This term will be used, when, in the opinion of the medical officer, there are no medical reasons for changing the patient's current assignment or duty. An individual may have certain symptoms and yet have no medical reason for not performing full duty. For instance, symptoms of an anxiety state are present in the majority of troops engaged in combat; a returnee with mild symptoms may fail to function because of his attitude and not because of the severity of his illness.

b. MINIMAL IMPAIRMENT. This term will be used to indicate a slight residual degree of impairment in the patient's ability to carry on in his current assignment or duty.

c. MODERATE IMPAIRMENT. This term will be used to indicate a residual degree of incapacity which seriously, but not totally, interferes with the patient's ability to carry on his current assignment or duty.

d. MARKED IMPAIRMENT. This term will be used to indicate a residual degree of incapacity which totally prevents the patient from satisfactorily functioning in his current assignment. As in all cases of incapacity, the impairment may be temporary; in some cases it may be permanent.

STATISTICS

There are 705,423 psychiatric beds in the United States (*A.M.A.*, May, 1950) with an admission rate of 308,055 patients per year.

The diagnostic categories are shown in Table 1, the 1947 figures being the latest available at this time.

MEDICO-LEGAL CONSIDERATIONS

It seems to one of us that there is urgent need for a sensible and modern *National* Commitment Law. As it is now, the procedure varies from state to state and in a few places an archaic method of trial by jury is still practiced. Furthermore, the present State commitment laws are valid only within the jurisdiction of the particular state. Obviously, if a person is mentally sick enough to need hospital treatment in Pennsylvania, then he also needs hospital treatment in even the salubrious climate of California, and he should be able to have it without the formality of a new commitment.

The legal dangers of psychiatry have been unduly magnified and need not terrify the student. A knowledge of the essentials of the laws of commitment will enable him to recognize and avoid legal entanglements and in the long run one is as apt to be sued for his management of diphtheria or a Colles's fracture as he is for a certificate of insanity. The method of commitment is a matter of individual state legislation and it is always advisable to be thoroughly acquainted with the State Mental Code. Since the Pennsylvania Code

Table 1

ALL FIRST ADMISSIONS TO STATE HOSPITALS FOR MENTAL DISEASE, BY MENTAL DISORDER AND AGE, BY SEX, FOR THE UNITED STATES: 1947

Diagnosis	*All ages*
ALL PATIENTS	93,749
Psychoses	76,315
General paresis	4,880
With other forms of syphilis of the C.N.S.	640
With epidemic encephalitis	148
With other infectious diseases	216
Alcoholic	4,135
Due to drugs and other exogenous poisons	383
Traumatic	441
With cerebral arteriosclerosis	14,362
With other disturbances of circulation	653
With convulsive disorders	1,347
Senile	11,039
Involutional psychoses	4,249
Due to other metabolic, etc., diseases	726
Due to new growth	203
With organic changes of the nervous system	951
Manic-depressive	6,548
Dementia precox (schizophrenia)	18,675
Paranoia and paranoid conditions	1,117
With psychopathic personality	896
With mental deficiency	2,401
Other and undiagnosed psychoses	2,305
Other Diagnoses	14,587
Psychoneuroses	3,331
Without mental disorder	10,628
Primary behavior disorders	628
Diagnosis not reported	2,847

may stand as a type of advanced legislation, brief synopses of the several commitment procedures are included.

Admission by Voluntary Application. When the patient is coöperative and intellectually competent enough to appreciate the nature of his act, admission by voluntary application is advisable. It is merely necessary for the patient to sign in the presence of witnesses an application for admission to a mental hospital.

Admission by Certificate of Two Physicians. This is the usual method. "Whenever it shall appear that any person is mentally ill, or in such condition as to be benefited by or need such care as is required by persons mentally ill, the superintendent of any hospital for mental diseases may receive and detain such person, on the written application of any relative or friend, or the legal guardian of such person or any other responsible citizen, and on the certificate of two qualified physicians that said person is mentally ill and is in need of treatment and care in a hospital for mental diseases.

"The application aforesaid shall be in form, prescribed by the department, and shall state the name, sex, and residence of the patient, the opinion that said patient is mentally ill, and that care in such a hospital is necessary for his benefit, and the facts on which the said opinion is based, and such other facts of information as may be required by the department. If the facts called for, or any of them are unknown to the applicant or applicants, it shall be so stated in the application.

"In the certificate, aforesaid, the physicians shall each state his residence; that he has resided in this State for at least three years; that he has been licensed to practice medicine in this State; that he has been in the actual practice of medicine for at least three years; or has had at least one year's experience as physician in a hospital for mental patients; that he is not related by blood or marriage to the patient or to the applicant, or any of the applicants; that he is not connected in any way as medical attendant, or otherwise, with the hospital to which application has been made for the admission of the patient; that he has examined the patient with care and diligence within one week; and that in his opinion, the patient is mentally ill and in need of hospital care. He shall further state in said certificate the information, relative to the patient, given him by others, and the facts, as to the patient and mental condition and the behavior of the patient, which he has himself observed, on which he bases his opinion.

"The aforesaid application and certificate shall be sworn to or affirmed before a judge or magistrate; and said judge or magistrate shall certify to the genuineness of the signature, and to the standing and good repute of the signers of the certificate. The commitment shall not authorize the admission of the patient unless the patient shall be admitted within two weeks of the date thereof."

Emergency Commitment. In an emergency, as for instance when the patient is violently or dangerously mentally ill, he may be detained by a hospital for a period not exceeding ten days, even if the certificate of physicians has not been sworn to or affirmed.

If the patient needs immediate care he may be placed in a mental hospital for a ten-day period on the application of legal guardian, relative or friend, and the certificate of one licensed physician.

Subsequently he may be certified in the usual manner.

Court Commitment. In a few instances when the patient by the nature of his illness is apt to become litigious, it is advisable to accomplish commitment by application to the Court of Common Pleas or other Court of Record.

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CHAPTER 3

THE ORGANIC REACTION TYPE

Any disease, injury, or condition of physiologic decompensation, which may produce pathology of the nervous system may result in organic defects, which if severe enough will produce mental symptoms which are classified as organic psychoses. The principal differentiation between so-called toxic reactions and organic reactions is that in the former the pathologic state is usually temporary and reversible and in the latter the changes are apt to become permanent and irreversible. Focal or diffuse brain destruction associated etiologically with syphilis, arteriosclerosis, neoplasms, trauma, chronic poisonings, or aging, may be productive of permanent changes within the central nervous system. In all organic reactions there are certain symptoms that are due to the organic change in the nerve cells themselves and other symptoms that color the psychosis which are best understood if considered to be due to the patient's earlier experience and his personality pattern. These symptoms and signs which are found in all organic changes in the brain irrespective of the specific etiology are as follows:

A. A history of gradual change in personality, a reduction of mental capacity, a development of judgment and moral defects in behavior, changes which may best be described as habit deterioration.

B. Physical, neurologic, encephalographic, or spinal serologic findings indicating some destructive process in the brain.

C. Mental status symptoms showing a general reduction in mental capacity as shown by defects in memory, defects in retention, difficulties with orientation, and failure to grasp the niceties of the situation in which the patient finds himself.

D. Emotional instability most frequently characterized by irritability and rapid shifts in moods. This lability is sometimes called "emotional incontinence" because the patient may become tremendously angry or begin to weep for little or no reason as far as environmental events are concerned. Emotional reactions are often of an all-out type such as those seen in childhood, not regulated in intensity to fit the situation which precipitated the outburst. Behavior change seen in deterioration of personal habits, moral offenses, quarreling, and a very poor direction of the energies and poor utilization of them.

E. Exaggeration of the previous personality pattern. For example, aggressive persons become overactive, quarrelsome, and irritable, while the seclusive, suspicious individual becomes paranoid, the quiet, shy pessimist may become depressed.

F. Decreased tolerance to toxic substances. Patients may become confused or delirious on small doses of alcohol or sedative drugs. In many patients the initial symptoms are precipitated by some intercurrent somatic infection with fever. Whenever encountered, the constellation of symptoms should always put the student or physician on the track of some organic disorder of the brain, and appropriate diagnostic studies should be performed to determine the exact etiology. The objective evidence of central nervous system damage adds to the strength of one's convictions that one is dealing with an organic reaction.

One should not be led astray by either the presence or absence of grandiose delusions, paranoid projections, or even hallucinatory phenomena. These symptoms are present in some organic cases and absent in others, probably depending upon the person's previous personality pattern and mode of adjustment. In early organic reactions, the sensorium disturbance may be mild and it may take prolonged and detailed examinations to demonstrate them. In these cases, however, it is improper to state that the sensorium is clear in this organic state. Rather, it is proper to say that the examination of the sensorium may not be sufficiently detailed to demonstrate the mild changes that must be present.

Organic reactions may be found in any age in life, beginning with birth injuries and terminating with the changes of senility. The more common ones vary with the type of practice in which the physician is engaged, but on the basis of the general admissions to psychiatric hospitals the country over, approximately 12 per cent are due to senile reactions, approximately 5 per cent due to psychosis with cerebral arteriosclerosis, 10 per cent due to general paresis, roughly 2 per cent due to epileptic psychoses, and the remainder due to trauma, disease of various types, and various degenerating central nervous system conditions. The treatment varies with the various etiologic factors and will be discussed under the headings of the more important ones. The prognosis also varies with the etiologic agent, and the severity of the organic changes present at the time the treatment is started. This too will be discussed in detail under the various etiologic classifications.

NEUROSYPHILIS

In studying syphilis of the nervous system in its various forms the student should always bear in mind that this is only one of the manifestations of a generalized systemic infection. Just why the spirochetes invade the nervous system in some individuals and not in others is not clearly understood. Dunlap has given an excellent discussion and description of the distribution of spirochetes which lay dormant so long before invading the nervous system in some individuals and not in others. Older studies reveal an incidence of neurosyphilis in 5 to 10 per cent of all patients suffering from syphilis in any form.

More recent studies, however, show an increasingly higher percentage of patients with invasion of the central nervous system. The Coöperative Clinic study, on Asymptomatic Neurosyphilis, in a survey of 5,293 patients who had at least one spinal fluid study during the course of the infection, found that 53.4 per cent of the patients had positive spinal fluid serology and 39.9 per cent of the patients with positive serology had associated clinical signs of neurosyphilis. This suggests that an even higher incidence of involvement of the nervous system will be found as laboratory and clinical examinations and techniques become more precise, and as the educational program brings about a more generalized use of these methods. Why syphilis becomes clinically manifest in the heart, the liver, the brain, or the spinal cord in such patients is, as mentioned before, unknown. The old theory of zone or area of minor resistance is merely a verbal fog to shield our areas of ignorance. One is tempted by the similarity of cord symptoms in tabes and pernicious anemia to postulate the possibility of the deficiency states as the physiologic condition which permits or aids the spirochete in bringing about structural change in the posterior column. The fact that more cases of neurosyphilis were diagnosed and reported during the decade following the introduction of the arsphenamines has encouraged various theories that neurosyphilis is precipitated by antisyphilitic treatment. Certain individuals have stated that the incidence of neurosyphilis has been increased by the use of the arsenicals in the treatment of early syphilis. These studies failed to take note of the fact that the widespread application of the diagnostic procedures necessary for the detection of neurosyphilis did not appear until the decade following the development of the arsphenamines by Ehrlich.

The Coöperative Clinic Group has attempted to evaluate the role of treatment on the incidence of neurosyphilis. Asymptomatic neurosyphilis was noted among 7.5 per cent of the patients who had a minimum of 20 injections of arsphenamine and 20 injections of the heavy metals given as a continuous course. The incidence of asymptomatic neurosyphilis was 22.5 per cent in those patients who receive approximately the same total amount of treatment, administered irregularly, with lapses and rest periods. They further state, "Further evidence in support of the conflict that modern treatment of early syphilis does not predispose to the production of asymptomatic neurosyphilis shows that the patient treated continuously and adequately during the first two years of the disease develops a lower percentage of symptomatic and asymptomatic neurosyphilis than those treated continuously but given an inadequate amount of treatment." They also present figures that show of those syphilitics who receive no treatment, 55 per cent eventually develop symptomatic neurosyphilis, while of those who are adequately treated, only 38.2 per cent developed symptomatic neurosyphilis. One of the preliminary reports of the Coöperative Clinic Group for studying nonspecific treatment of neurosyphilis revealed the patients treated during the early stage of syphilis respond in general to treatment of neurosyphilis better than patients who were not treated in the early stage. Moore and Hopkins have reported that the average incubation period of general paresis is 19.5 years in patients untreated for early syphilis, and 15.3 years for patients receiving early treatment.

It has been shown that syphilitic meningitis occurs approximately 10 times as often in inadequately treated early syphilitic cases, as those receiving no treatment. In spite of the tendency of inadequate early treatment to shorten the incubation period of paresis, any treatment in the early stages of syphilis decreases the probability of neurosyphilitic involvement, except for syphilitic meningitis. Early treatment also renders the infection more amenable to treatment, in those individuals who do develop neurosyphilis. The incidence of neurosyphilis is, of course, very much lower in patients who have had adequate treatment for early syphilis. There are no statistically reliable studies of the incubation period of neurosyphilis in patients treated by modern intensive and continuous methods, because these methods have not been in use long enough to cover the ordinary amount of years necessary for the development of the full number of neurosyphilitics to be expected.

The use of intensive penicillin therapy has largely replaced all other forms of chemotherapy. Statistics are not available showing the effect of penicillin therapy of primary syphilis on the incidence of neurosyphilis or the other forms of late syphilis. Sufficient experience is at hand to show that syphilis meningitis does not commonly occur following the use of penicillin in the early phases. It is anticipated that early intensive use of penicillin will sharply reduce the incidence of late neurosyphilis.

TYPES OF NEUROSYPHILIS

As stated before, neurosyphilis is only one part of a generalized systemic infection and accordingly all parts of the nervous system may be presumed to be infected, in spite of the fact that we are unable to demonstrate the infection in many instances by present diagnostic methods. For the purpose of organization in the discussion, it is customary to divide neurosyphilis into various types according to the area or portions of the nervous system demonstrating evidence of syphilitic infection. In this discussion we will use the classification of Joseph E. Moore because of its simplicity and general utility. Moore groups neurosyphilis as follows: I. Asymptomatic Neurosyphilis, II. Meningeal Neurosyphilis, III. Vascular Neurosyphilis, IV. Diffuse Meningovascular Neurosyphilis, V. Parenchymatous Neurosyphilis. These classifications denote the area of the nervous system in which the major damage is manifest.

SYMPTOMATOLOGY

I. ASYMPTOMATIC NEUROSYPHILIS

Asymptomatic neurosyphilis is that form of syphilis of the nervous system manifest by positive spinal fluid serology and without clinical findings due to syphilis. It must be presumed that the examination for clinical signs will be completely and carefully done before such a diagnosis is made. The diagnosis is purely a laboratory one, the patient showing no symptoms. Such classification is based entirely on the degree of involvement of the spinal fluid and has been divided into four groups by the Coöperative Clinic Study and into three groups by Moore. Groups II and III of the Public Health Classification correspond roughly to Group II of Moore. The groups are characterized by the following laboratory findings:

Group I. Cases in which the lymphocyte count is 10 or more cells with or without a positive globulin test. The Wassermann and colloidal gold test are negative in all dilutions.

Group II. Cases in which the cell count and globulin content are normal or increased. The Wassermann is positive and the gold curve usually being of the syphilitic or mid-zone type.

Group III. Cases in which the cell count is 30 or more, the Wassermann four plus in increasingly high dilutions, and the colloidal gold negative or the syphilitic zone type. Patients falling just short of Group IV are also included in this group.

Group IV. Cases in which the spinal fluid shows the so-called paretic formula, that is, marked excess globulin, a strongly positive Wassermann in amounts of 0.2 cc. or less of spinal fluid, and the paretic type of colloidal gold curve. The cell count is above normal and contains in addition to small lymphocytes, large lymphocytes and some polymorphonuclear leukocytes. Inasmuch as the diagnosis of this condition is based entirely on the detection of spinal fluid abnormalities, the question of the best time for examination of the fluid is important. The optimum time for this examination varies with the stages of syphilis.

EARLY SYPHILIS. Both Moore and the Coöperative Clinic Group recommend testing of the spinal fluid within the first six months of treatment in early syphilis. If the fluid is negative, it need not be retested until the end of the treatment. If the examination reveals a positive fluid, it should be repeated every three months, to observe whether the trend is progressive or towards improvement. A serologic relapse in the blood during the course of active treatment is an indication for immediate spinal fluid examination. Also, any patient showing any signs or symptoms of involvement of the nervous system, such as headaches, dizziness, visual disturbances, or convulsions should be immediately examined for spinal fluid check before they are placed on periods of rest or observation after completion of their continuous, intensive course of treatment.

LATE SYPHILIS. All patients suffering from late syphilis should have an immediate spinal fluid examination. If this examination is negative it is stated that 99 per cent will remain negative providing the patient takes adequate treatment. Therefore, patients with late syphilis, who have a negative spinal fluid on the initial examination and who take their treatment faithfully will not require a re-examination unless they develop clinical signs of involvement of the nervous system. Patients who have an initially positive spinal fluid serology should have repeated examinations at intervals of not less than six months or upon development of any signs of progression or involvement of the nervous system. Any progression of symptoms from the asymptomatic stage will result in some one of the forms of neurosyphilis to be discussed in the following section.

II. MENINGEAL NEUROSYPHILIS

Acute Syphilitic Meningitis. The clinical picture in acute syphilitic meningitis is essentially the same as that due to any low grade meningeal infection. It is within this group that inadequate early treatment may precipitate the disorder. Stokes has stated, "It is merely a relapse of an imperfectly extinguished infection in a structure peculiarly inaccessible and difficult of sterilization and in a patient whose resistance has been prevented from developing by improper treatment."

Syphilitic meningitis is 10 times as frequent in patients who are inadequately treated for early syphilis as patients who receive no treatment at all. Grinker states, "Clinical experience has proved that mild or absent skin lesions in the secondary stage usually mean severe neurosyphilis. On the other hand, severe skin lesions seem to prevent the development of malignant varieties of neurosyphilis. It is possible that the skin and epidermic structure when infected produces antibodies in sufficient quantities to protect the other great epidermic tissue, the nervous system." Merritt and Moore have an excellent monograph on acute syphilitic meningitis and an extensive review of the literature which shows a variation of from 0.2 to 0.5 per cent of early cases of syphilis that will develop meningitis. Syphilitic meningitis may occur during any stage of syphilis, although in the majority of instances it occurs in the early stages, usually during the first two years. It may occur at any age and there is no particular racial distribution, in America. On the other hand, Frazier has shown a tremendous incidence of meningeal neurosyphilis among the Chinese. It frequently occurs in patients with inadequate early treatment. It is extremely uncommon in patients who have had as many as 15 injections of some arsphenamine and the obvious prevention of this disorder is adequate, early treatment of syphilis, with enforced treatment if the patient fails to coöperate.

The principal symptoms are headaches, vertigo, lethargy, and often some visual disturbance. Neurologic findings show a stiff neck and the other signs indicative of meningeal irritation such as positive Kernig and Brudzinski signs. There is usually a hyporeflexia. The laboratory findings usually reveal a positive blood Wassermann in about 60 per cent of the cases. Most of the others will give a positive history of syphilis. Spinal fluid is usually under increased pressure and is generally turbid in appearance. A typical case is free of pellicle formation and free of bacteria. The cell count is usually increased in the range from 100 to 500 or 600 cells although the exceptional case may have as many as 2000 cells, usually 80 to 90 per cent lymphocytes. The globulin reaction will be positive in most cases and the total protein will be increased. The colloidal gold curve will usually show an elevation in the first or second zone although in many cases it will be negative. The spinal fluid Wassermann is positive in at least 90 per cent of the cases. The sugar and chloride component of the spinal fluid shows no significant variation from normal. The spirochete has been demonstrated in the fluid but this is a difficult technique and its absence is of little value to the diagnosis. There are often some localizing signs of the convexity or basilar type, these including symptoms such as convulsions or various cranial nerve palsies, the third and sixth nerves being the ones most commonly involved. The differential diagnosis is chiefly concerned in distinguishing between meningitis due to syphilis and other forms of meningitis. The forms most difficult to differentiate are meningitis due to tubercle bacillus. In tubercular meningitis a pellicle is usually formed and smears from the pellicle or from centrifuge specimens will often reveal acid-fast bacilli. In tubercular meningitis the spinal fluid chloride is usually less than 600 mg. and in syphilitic meningitis it is customarily above this level. Torula meningitis must also be considered but it is an extremely rare disorder and is distinguished principally by the absence of strongly positive serology although a weakly positive Wassermann may be encountered, and by the finding of the yeast-like organisms on culture and sometimes on smears. Purulent meningitis or meningiococcus meningitis is characterized by a higher cell count, usually with the spinal fluid cells numbering in the thousands, and being predominantly polys. The occurrence of the bacteria on staining the various cells is also a helpful differential sign. A positive blood Wassermann in the spinal fluid likewise is of value in differentiating, but it must be borne in mind that syphilitics are not immune to the other forms of meningitis. The following case history is typical of this disorder:

P. F., a 35-year-old auto salesman, entered the hospital in a lethargic state, complaining of headache, photophobia, and blurring of vision. When aroused he was irritable and complained of all attempts to move him. History revealed a penile chancre eight months prior to admission. He had received weekly injections of neoarsphenamine and bismuth since the development of the primary infection. Headaches began two months prior to admission and persisted daily. The other symptoms complained of developed in the 48 hours prior to admission. Examination revealed a stiff neck, hyperactive tendon reflexes, positive Babinski reflexes, positive Kernig sign, turbid spinal fluid containing 950 lymphocytes per cu. mm., positive blood and spinal fluid Wassermann reactions and a 554332211 gold curve. Temperature 101° F. (R) upon admission. Treatment consisted of combined fever and chemotherapy. The symptoms subsided rapidly during the first week of treatment.

Chronic Syphilitic Meningitis. This may occur as the primary picture or as a complication in improperly treated cases of the acute form. The symptoms are probably due to an unresolved exudate with the formation of adhesions as well as from the infectious process itself. The symptoms vary according to the areas of the brain covered by the most seriously involved meninges. There is usually a constant sharp headache, some atrophy, vertigo, and vomiting. There may be sensory changes or motor paralysis, or aphasia, depending upon the area involved. An interesting symptom is tenderness upon percussion over the skull when the involved area lies under the vertex. Basilar involvement is common, often giving rise to adhesions, and, according to some workers, these adhesions may involve the optic chiasm producing a complete or partial optic atrophy. Other cranial nerves may be involved, the third, fourth, and sixth are most commonly afflicted and a great many occular palsies are due to chronic syphilitic meningitis.

Gummatous meningitis is described in some texts. It is a rare disorder and cannot be clinically differentiated from chronic syphilitic meningitis. In some instances the gumma are reported to be of large size and to produce tumor symptoms. In practice glioblastoma and brain abscesses in individuals suffering from neurosyphilis are more frequently found than gumma of the brain. Hypertrophic meningitis of the spine is merely a form of chronic syphilitic meningitis involving the meninges around the cord and producing symptoms according to its area of location. The adhesions usually occur in the cervical region where they produce root symptoms and may produce sensory changes in the ulnar and median nerve distributions. If it progresses it produces, through involvement of the motor route to the brachial plexis, severe atrophies and paralysis of muscles in the upper extremities. In individuals who show no neurologic abnormalities below the level of the cervical spine, the process may progress or may include gumma formation with signs of progressive pressure on the cord.

III. VASCULAR NEUROSYPHILIS

Practically all cases of neurosyphilis of the vascular type show evidence of syphilitic involvement in other tissues of the body, but in many cases the outstanding clinical findings are due to vascular involvement in the nervous system, and for ease and clarity in discussion it will be described as a single entity. Vascular neurosyphilis frequently accompanies cardiovascular syphilis and is merely part of the widespread involvement of the entire vascular system. Burnet and Rymer found that 33.9 per cent of a group of 215 cases of neurosyphilis, most of whom had a diagnosis of general paresis, showed involvement of the cardiovascular system as manifest by the clinical findings or x-ray evidence of aortitis. The symptoms of vascular neurosyphilis are usually due to the diffuse endarteritis which results in ischemia of the brain. This usually produces a dull, diffuse headache during the acute stage with irritability and occasional attacks of convulsion, aphasia, or hemiplegia. These latter symptoms may be transitory in nature and incomplete or transitory hemiplegia in the absence of hysteria or arteriosclerosis, should make one suspicious that vascular neurosyphilis exists. As the condition progresses, one may have areas of softening and more permanent focal signs appear. These signs usually come on slowly and they require from a few hours to several days before they are fully developed. The patient relapses and remains unconscious during the period of development of the symptoms and occasionally may awake in the morning feeling well only to find that he has a hemiparalysis. Small miliary aneurysms are occasionally found, but contrary to popular belief, rarely produce hemorrhages. The syndrome of spontaneous subarachnoid hemorrhage is rarely due to syphilis. An involvement of the basal ganglia by the endarteritic process may produce a paralysis agitans-like syndrome which has been called Mesencephalitis luetica by Grinker and has been described by Mella and Mack. The differential diagnosis is usually made by the presence of the Argyll Robertson pupil and the positive spinal fluid Wassermann. Certain individuals suffering from syphilis may develop a transverse myelitis. The signs are those of transverse myelitis due to any cause and consists of a loss of motor power and loss of cutaneous sensation in the lower extremities. The tendon reflexes and plantar reflexes are absent in the initial stages and within a few days marked hyperreflexia and spasticity with pathologic toe signs develop. The sensory control is usually gone, and decubitus lesions soon appear. There is usually an elevation of temperature to 101° to 102° F. and in the initial phases the patients appear ill. The course is varied, some cases remain stationary, some improve, and some in progressing upward cause a respiratory death. The progress may be checked from day to day by marking the sensory level on the skin of the trunk. Patients who develop an associated atrophy of the optic nerve usually progress to a fatal termination. An occasional patient with no other signs of neurosyphilis will suddenly develop a myelitis shortly after injection of one of the trivalent arsenicals. These symptoms, signs, and course of these cases are no different from those known to have neurosyphilis, although the onset and evolution of this process is usually more rapid.

The following case is illustrative of vascular neurosyphilis:

M. F., a 36-year-old divorced waitress, developed a severe pain in her head while working. The following morning she had a right hemiplegia and the family physician made a diagnosis of hysteria. Upon admission she was alert and coöperative but had a mild motor aphasia; there was weakness of the right facial muscles and a complete paralysis of the right arm and right leg. Deep reflexes were all hyperactive in the right extremities. Blood Wassermann negative, Eagle flocculation positive, spinal fluid Wassermann positive, gold curve paretic in type, spinal cell count 48 lymphocytes, and total protein 45.

Patient was placed on chemotherapy for six months and then given fever therapy followed by further intensive chemotherapy. The symptoms have been relieved by treatment but the serology remains positive.

IV. DIFFUSE MENINGOVASCULAR NEUROSYPHILIS

This is numerically the most common and symptomatically the most heterogeneous form of neurosyphilis. The symptoms may consist of any one or several of the symptoms described under chronic meningeal syphilis plus any or all of the vascular phenomena described under that heading. In general the symptoms are characterized by headaches, convulsive phenomena, aphasia, cranial nerve palsies of various types, mild defects in memory, and in general dulling of the intellectual processes. Hemiplegia is a common symptom and may be the initial complaint in the disorder. The hemiplegia often develops slowly as in thrombosis but in some cases it is a transitory phenomenon. Ten to 15 per cent of the untreated patients with early syphilis will develop diffuse meningovascular neurosyphilis. The period between primary infection and the onset of meningovascular syphilis varies from one to 20 years, although the average patient will develop his symptoms in eight to 10 years after his initial lesion. The incidence of this form of neurosyphilis is greatly reduced by even inadequate treatment of early syphilis. Adequate treatment of early syphilis reduces the incidence of meningovascular syphilis to an insignificant figure. There is no very good evidence to date that inadequate treatment of the early phase of the infection significantly shortens the incubation period as it is thought to do in general paresis. Moore reporting a difference of only two years in the untreated and treated group. The pathology varies with the extent and type of involvement. The vascular picture is predominantly one of endarteritis and the brain parenchyma may show areas of ischemia or softening. Actual hemorrhages are rare and usually small. The meningeal reaction is one of adhesions and thickening, the serology in the blood is positive in about 65 to 70 per cent of the cases before treatment, and in a much smaller percentage of cases if treatment has been started before the tests are made. The spinal fluid will be positive in approximately 90 per cent of untreated cases, but any treatment at all of the early syphilis will result in a small percentage of positive fluid in patients with clinically manifest meningovascular syphilis. Each case must be considered individually with careful study of the history and the findings, in all the physical, neurological, mental, and laboratory examinations. Cerebral arterial sclerosis is the disorder which most frequently obscures the picture. It must be differentiated because in it the typical signs are those of cortical irritation plus signs of vascular inadequacy. In general, cerebral arteriosclerosis develops in a later age group, usually not before 50 or 60 years, but this differential may be misleading if patients contract syphilis late in life, or in younger individuals with a tendency to angiospasm. The spinal fluid examination and the finding of definite signs of retinal and generalized arteriosclerosis are the most reliable differential signs.

The following case is typical for this type of syphilis of the nervous system:

H. N., a 33-year-old white female, was brought to the hospital by her husband who complained, "She swears and is vulgar. There is a marked change in her personal appearance and manner the last five months. I don't think she knows what she is doing. Her left arm seems paralyzed." The patient had no difficulty as far as the informant (her husband) was able to state, until five months prior to hospitalization. At that time he separated from her because of marked irritability. She returned to him two weeks prior to admission, was untidy, profane, and careless in exposing herself, was emotionally unstable, and told of having lived with another man. Three days before coming to the clinic she lost the use of her left arm and was removed to the County Hospital where a "mental" component was recognized culminating in her transfer to the Psychopathic Hospital.

The patient was a product of a broken home. She had had frequent colds in early childhood. She had a ninth grade education and had been employed as a waitress, factory girl, and prostitute. She had been married twice, borne one child by her first husband from whom she acquired syphilis, had numerous miscarriages and used large quantities of alcohol. The family history was not obtained.

Upon admission the patient was pleasant and coöperative but one hour later had a convulsive seizure in which the eyes were drawn to the left, left leg extended, the right arm and leg flexed. There was profuse sweating on the right side of the body. Following the seizure there was a flaccid paralysis of the left arm and leg with diminished reflexes and positive Babinski on the same side. Deep tendon reflexes on the right were exaggerated and there was evidence of left facial paralysis.

Following the seizure she was untidy, exposed herself, was incontinent and helpless. She was confused, frequently contradicted herself but often her speech was coherent and relevant despite the rather marked speech defect. The affect might be described as "irritable and demanding." There was no special preoccupation and neither hallucinations nor delusions were elicited. She was disoriented for time, recent memory was patchy while remote memory remained fairly well intact. She retained six digits forward but could not reverse four. Calculation was very poor. General information was fair but both judgment and insight were lacking.

Positive physical findings were retroverted uterus, leftsided hemiplegia, paralysis of face below the eyes with drooling of saliva, absent abdominal reflexes on left, positive Babinski and Oppenheim on the left; otherwise, remaining deep tendon reflexes equal and hyperactive.

Significant in laboratory findings were a negative blood Wassermann, but a positive Eagle flocculation, a four plus spinal fluid Wassermann with a protein of 55, sugar of 101 and gold curve of 5555554210. The patient was inoculated with malaria after a careful premalarial work-up and had a satisfactory course of nine chills and elevations. During the course of malaria the hemiplegia cleared. She was given weekly injections of tryparsamide and thiobismol following malaria and was discharged two weeks after termination. At that time the sensorium was quite without defects, there was some emotional instability and slight judgment impairment. She has returned weekly to the Out-Patient Paretic Clinic where she received follow-up treatment of neo, tryparsamide or bismuth salicylate. To date her adjustment is satisfactory and her recent spinal fluid showed a gold curve 5555442100 protein of 35 and sugar 56. The spinal fluid Wassermann was 0-1 and the blood Wassermann and Eagle both negative.

Discussion. Here the initial difficulty is purely vascular in its expression and characterized by a convulsive seizure and hemiplegia. The mental status examination, however, after her admission to the hospital, revealed this process to be more widely spreading. It might be pointed out with interest that the affect is best described as "irritable and demanding." This finding is the rule for early affective change in this particular organic reaction type. The diagnosis of meningovascular lues was further made secure by the laboratory findings.

V. PARENCHYMATOUS NEUROSYPHILIS

This group includes tabes dorsalis, primary atrophy of the optic nerve, and general paresis. It is not within the field of this book to discuss the first two forms, but considerable space will be devoted to general paresis in that it accounts for at least 10 per cent of all mental disorders hospitalized.

General Paresis: ETIOLOGY. Paresis is an organic brain disease, always due to syphilis, and marked by serologic findings which are almost absolute in diagnostic value, with neurologic signs which are quite reliable and by mental findings which, while often more or less characteristic, may be sometimes quite misleading. This is the most malignant form of syphilis and prior to the development of modern treatment methods, it almost invariably resulted in death. In spite of the most modern and energetic treatment, about 30 per cent of the patients developing this disorder show no improvement and the bulk of the refractory group ultimately die of the disease. The interval between the primary lesion and the development of clinical signs may vary from eight months to 30 years, but the average interval is about 15 years. Cheney observed that 57 per cent of the cases came on after a latency period of 10 to 19 years, 6 per cent in over 30 years, and less than 2 per cent in less than five years. Kraepelin observed that nearly one half of untreated patients die within two years after development of paresis and almost all are dead within five years. Patients suffering from so-called "galloping paresis" may die within two or three weeks while Galbraith and others have reported untreated patients living 30 or more years after symptoms develop. The age of onset is about 40 years, 70 per cent of the cases developing in the third or fourth decades of life.

What circumstances or combination of physiologic function permits the organism to remain dormant for so many years and then to become active in the brain remains unknown. Various theories have been evolved and discussed at great length in the literature. The most common of these theories have to do with the "zone of minor resistance" and the so-called "neurotrophic strains." It is the opinion of the authors that the theories leave much to be explained. The role of trauma has been discussed in scientific meetings as well as compensation courts with no satisfactory decision reached. It is generally conceded, however, that trauma, excessive alcoholism, or other agents which disturb the physiologic equilibrium of the central nervous system may precipitate paresis in a person suffering from asymptomatic neurosyphilis. In spite of this general belief, the evidence upon which it is based is far from convincing. Similarity of the symptoms in paresis to those seen in some of the nutritional disturbances of the brain, secondary to advanced age, or excessive alcoholism, offers fertile fields for speculation. The role oxygen and carbohydrate metabolism may play in the disorder is unknown, but tempts one to think of nutritional disorders and the avitaminosis states as possible priming agents that set off the paretic explosion. The influence of racial and climatic factors was discussed by Kraepelin, but this phase of the problem has been neglected and needs further study. From an etiologic viewpoint the symptoms and signs of dementia paralytica are best understood if considered as: (a) primary symptoms; that is, symptoms and signs due to organic diseases of the brain, and (b) secondary symptoms, meaning these symptoms which are determined by the personality and past experience of the particular patient under observation.

PRIMARY SYMPTOMS. The primary symptoms are those seen in any other organic psychosis; irritability, general slowing of all mental processes, errors in judgment, and capricious defects in memory are the commonest early signs. Minor behavior disorders and progressive intellectual defects progress and, if unchecked, progress until the patient is a "vegetable," displaying little awareness of or interest in the events transpiring in his environment. The physical and neurologic signs are nonspecific and consist in a loss of weight, hypersomnia, increase in appetite, various pains of a lancinating or stabbing character, ataxic gait, pupillary irregularities and inequalities in about 70 per cent of cases with Argyll Robertson pupils in about 40 per cent of them. There is a generalized hyperreflexia, and pathologic thumb and toe signs. The speech is usually slurred and there is commonly a coarse tremor of the tongue and lips. Writing is frequently tremulous and in more advanced cases words are misspelled and entire phrases omitted.

SECONDARY SYMPTOMS. The secondary symptoms are those determined by the individual's previous personality and colored by his occupation, his education, and his past experience. The affable, aggressive, outgoing individual tends to become euphoric, elated, overactive, and be given to many expansive ideas and delusions. These ideas are usually delusions of great wealth, great power, or some combination of spectacular talent. For example, one expansive patient proposed to give the physician a "gunny sack" of diamonds, another had a wife whom he stated was more beautiful than any movie star. Another patient has worked out a scheme by which he could become the greatest pitcher in baseball and the World's champion prize fighter and perform all in one evening. The suspicious introverted individual will become sullen, irritable, assaultive, and have many paranoid ideas during his paretic episode. The dour, sour pessimist will show all of the signs, symptoms, and suicidal tendencies of a true depression or melancholia. The farmer plants, the preacher prays, and the physician conducts new and wonderful cures during the psychotic episode.

TYPES. Many of the present-day texts and papers continue to classify general paresis into the original Kraepelin groups. "Demented form, depressed form, expansive form, and agitated form." They then proceed to a discussion of the prognosis in the various forms, the opinions vary considerably as to those forms showing the best response to theory. The difficulties are obvious, such a classification is made on the symptoms the patient shows as the result of his previous personality pattern and while they are precipitated by the organic episode, gives little evidence as to the severity or extent of the brain damage. In most instances no attempt is made to evaluate the actual extent of the brain damage present. Kraepelin recognized the need for a more satisfactory grouping when he stated, "Perhaps a better understanding of the etiologic or pathologic anatomic relationship to the disease will enable us, from their new point of view, to evolve a more satisfactory grouping."

We have made an attempt to divide and classify the dementia paralytica cases according to the severity of the involvement in the brain itself; that is, according to the severity of the intellectual deterioration. The classification is as follows:

A. The deteriorative group in which the destruction of the central nervous system has proceeded to an advanced degree with little possibility of retarding the process. These patients show definite evidence of mental deterioration, they are usually apathetic, disinterested, confused, and bewildered. They display marked defects in remote and recent memory and gross defects in behavior. Often such patients are best described by the English term, "Dirty and deteriorated."

B. As an organic reaction with psychosis similar to the functional disturbance seen with manic excitement, depressions, and paranoid reactions. In these the sensorium defects are definite, usually involving judgment, insight, and recent memory and retention. On the other hand, the intellectual defects are not those of advanced deterioration and the patient retains his interest in the environment, although he interprets it in terms of his personality determined content at the moment.

C. Group C are cases without marked signs of deterioration. In these patients the sensorium and intellectual changes are minimal and contain at most transitory difficulties with retention, short periods of confusion, and, in fact, the intellectual deterioration is no more marked than that seen in vascular and meningovascular syphilis. The patient is usually, however, rather irritable and expansive, depressed or mildly paranoid without clear-cut delusional formation.

PATHOLOGY. The serologic findings in paresis are more constant than in the other forms of neurosyphilis. The blood Wassermann will be positive in at least 90 per cent of untreated cases. The spinal fluid Wassermann is positive in practically all untreated patients, the Wassermann being positive in high dilutions. The colloidal gold curve usually has first zone rise and the cell count is usually elevated to from 15 to 100 lymphocytes. Globulin reaction is in most instances positive and the total protein content above normal. A typical spinal fluid serology report would be: Wassermann reaction; 4444443210. Gold curve: 5555444321. Globulin positive. Total protein 75, cell count 50 lymphocytes. Any history of previous treatment should make one depend less upon the laboratory findings, and in all cases the individual patient must be completely studied, and all factors considered before a final diagnostic grouping is made. Pathologic findings are typical, grossly the meninges of the brain present a ground glass appearance and often adhere to the skull, the brain cortex, and to each other. The brain is diminished in weight and usually shows diffuse atrophy which is most marked over the frontal poles but which is also manifest by enlarged ventricles. The microscopic findings are those of any chronic encephalitic process. There is an infiltration of plasma cells and lymphocytes into the meninges and into the perivascular spaces. This perivascular accumulation of cells produces the well-known perivascular cuffing described in all texts. There is a marked increase in the number of small blood vessels and they appear to run through the tissue in a rather disorderly pattern. The nerve cells are greatly reduced in number and the usual cortical layers are not clearly defined. Many cells, however, are seen in the process of destruction, partially degenerated nerve cells covered with glial cells like currants on a cookie are common and the picture is described as neuronophagia often being referred to as "coffin formation." There is a marked proliferation of glial cells, and elongated microglia or rod cells scattered throughout the cortex is a classic finding in the brain of the paretic patient.

Another finding typical of general paresis is the presence of iron pigment in the tissues of the cortex. Untreated cases show many spirochetes in the tissues from the frontal lobe, but these are sometimes difficult to demonstrate. The atrophy of the brain is readily demonstrated by pneumoencephalogram which usually shows enlarged ventricles and increased cortical markings. In the

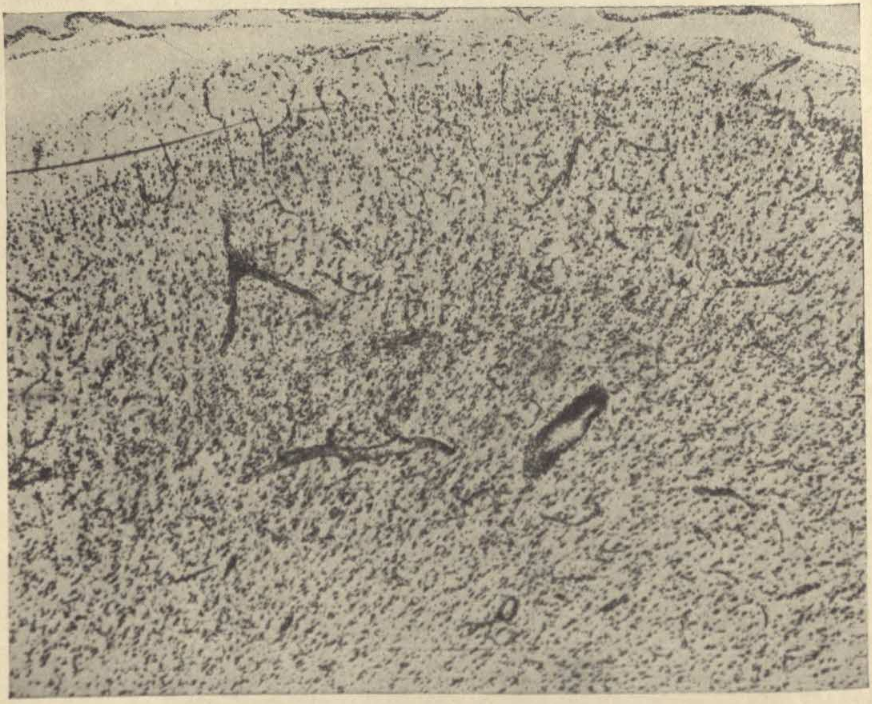


FIG. 4. General paresis, untreated, with marked perivascular cortical infiltration, Nissl stain. (Section by Neubuerger—Photo by Mills.)

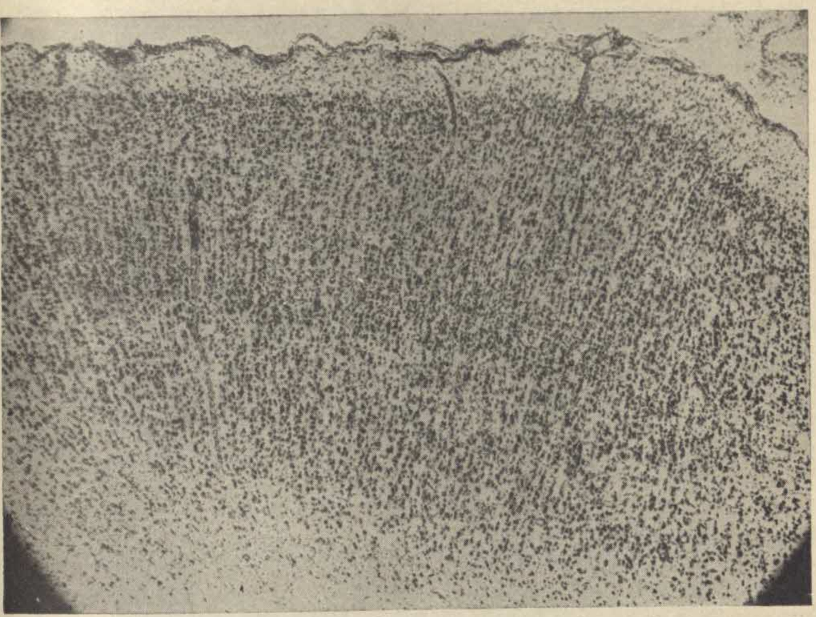


FIG. 5. General paresis, treated; cortex essentially normal, Nissl stain. (Section by Neuberger—Photo by Mills.)

interpretation of pneumoencephalogram the student is cautioned not to diagnose subdural accumulations of air as evidence of advanced cortical atrophy. Barnacle and Lemere have shown that such accumulations may occur in patients showing little or no loss of tissue from the cortex.

SYMPTOMS. The symptoms in paresis thus vary considerably but all have in common the intellectual deterioration found in organic diseases. The following cases are samples taken from the paretic clinic. The first case is that of an advanced paretic and is illustrative of the importance of early diagnosis and treatment. Although the diagnosis is made early in this case, the patient refused treatment and progressed to a deteriorative stage. Later treatment proved ineffective in bringing about any symptomatic improvement.

The patient stated that he first noticed a disturbance of vision in 1919, which was treated locally and with refraction which seemed to improve the subjective difficulty, at least temporarily. His old trouble returned in 1923, however, but again was temporarily improved by refraction. A recurrence in 1926, which failed to improve with a third refraction brought him to the General Hospital.

Examination at that time verified physically and serologically that the patient had general paresis with optic atrophy. Malaria was advised but all treatment refused.

The only contact we maintained with the patient over a seven-year period was through social service follow-up which revealed him to be deteriorating and which finally led to rehospitalization October 31, 1933. At that time he was completely blind, had multiple gastrointestinal complaints, stated he could play the violin,

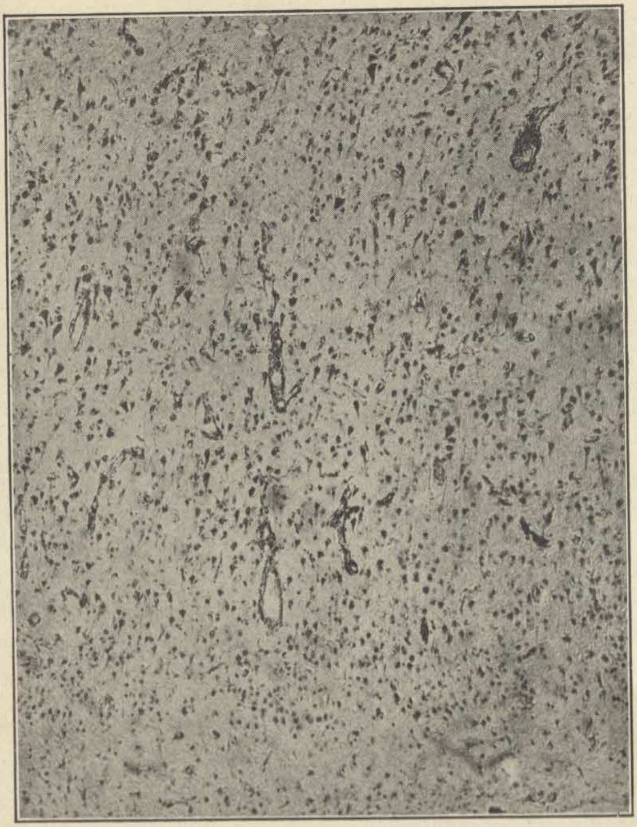


FIG. 6. Paretic brain cortex. Note disarrangement of cyto-architecture, loss of ganglion cells, increase in glia nuclei and perivascular infiltration.

sing, yodel, when actually he had no talent along these lines. He wandered away from home and got lost, could neither dress nor undress himself, had a marked memory loss, cried frequently, was very irritable, muttered to himself, and was hypersomnolent.

The developmental history revealed a normal birth, attainment of a sixth grade education, appendectomy at the age of 22 and pneumonia at 20. The patient was a laborer with careless social habits of drinking and sex, prior to his marriage. The marriage was said to have been compatible. There were three living children and two miscarriages.

The family history was not contributory.

Upon admission the patient was seen to be untidy and ill kempt. He was poorly coöperative, walked aimlessly about singing and talking to himself. His personal needs had to be cared for and he was obviously blind. Spontaneous talk was somewhat limited. Questions were answered coherently, but when asked something he did not know he replied, "Wait and ask my wife when she comes. You ask too many questions."

Emotionally he was moderately euphoric and at times irritable, "I am never discouraged. I always feel fine."

He was definitely expansive, said he was the best worker in the world and that he could play a violin and yodel better than anyone in the world. Hallucinations, delusions of reference and passivity were not elicited. The patient was disoriented for time and place, showed marked defect in past and recent memory, was unable to do the simplest calculation, recalled three digits forward but reversed none, was unable to retain any of the test phrases and displayed very poor grasp of general information. Judgment and insight were wholly lacking, while he showed marked difficulty on the test phrases for speech.

He appeared to be well developed and nourished but walked on a very wide base. The teeth were carious and the lungs showed scattered sibilant and musical rales. There were numerous old penile scars. The pupils were unequal, irregular, the right fixed to light and the left sluggish. Bilaterally there was a marked optic atrophy. Muscular coördination was exceedingly poor, the Romberg was positive and both patellar and Achilles reflexes were absent.

Both blood and spinal fluid Wassermann were four plus with a protein of 90 and a gold curve of 555554300 in the spinal fluid.

The patient was inoculated with malaria and chills precipitated with aolan and sulfur-diasporal. After seven chills and four elevations without chills there was no alteration in the clinical picture, and he was transferred to a State Hospital. One month later he died.

In contrast to the previous case, this patient was diagnosed early and proper treatment instituted with excellent results.

The patient was admitted to the clinic on June 25, 1933, with a complaint by the family that he seemed perfectly well until one week before admission, at which

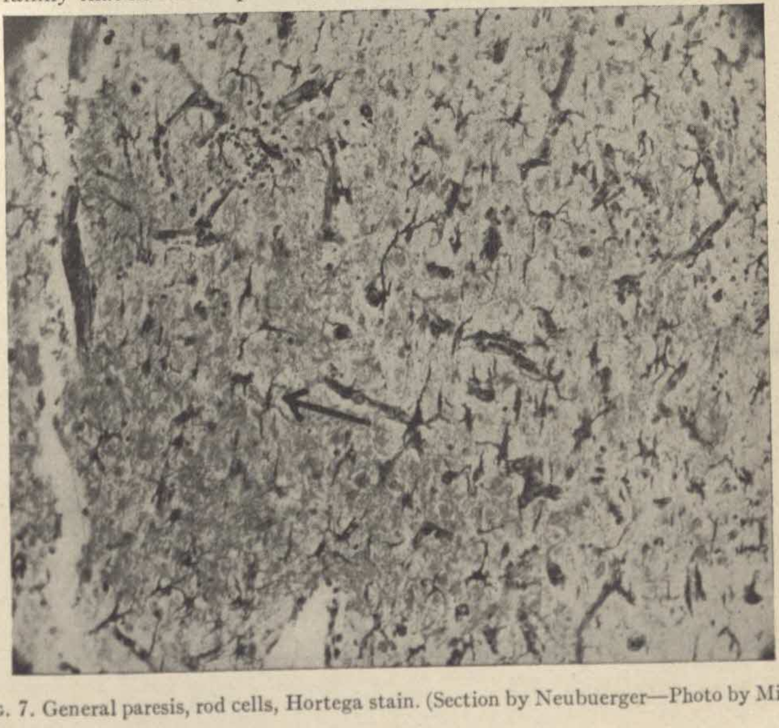


FIG. 7. General paresis, rod cells, Hortega stain. (Section by Neubuerger—Photo by Mills.)

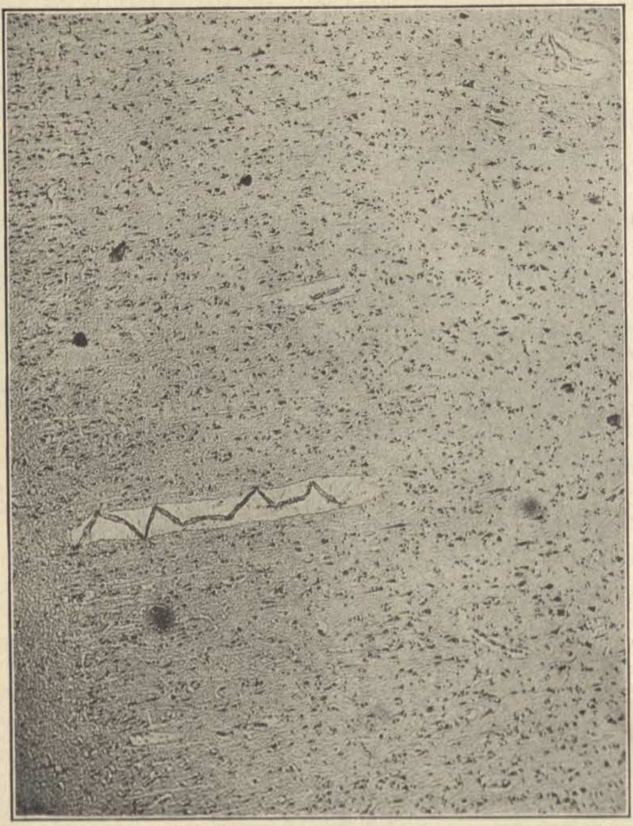
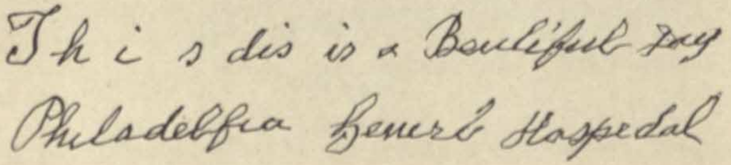


FIG. 8. Normal brain cortex (compare with Fig. 6).

time he developed lapses of memory and they noted that he would start talking about something and then forget what it was. He was also weak and tired and had been sleeping poorly. The family noticed that at times he seemed "out of his head," confused, talked irrationally and even mentioned that he was having difficulty thinking clearly. He became quite irritable and quite inefficient in his work and he had difficulty carrying on his business because his memory was so poor. He began to focus more and more on his financial difficulties, he became depressed and moody. He was having difficulty in sleeping and in spite of good appetite he began losing weight. The man's history revealed no significant difficulty. His recent activities were chiefly of the group variety in keeping with his previous outgoing, generous



Th i s dis is a Beutiful Day
Philadelfia Generl Hospedal

FIG. 9. Paretic handwriting. Note misspelling, breaks in connection, tremor, and omissions.

make-up. He had been married 14 years, his wife stated that the marriage had been happy and they had two healthy children, age five and twelve.

On admission, the patient seemed rather bewildered and depressed, he could not understand why he was in the hospital despite repeated explanations. He was neat, tidy, friendly, and coöperative. His content centered chiefly about his financial worries. The mood was one of depression with some sleep disturbance. At times some emotional lability was noticed, the patient weeping easily. There was no evidence of hallucinations, delusions, or ideas of reference. He was oriented for places and persons but not for time. Memories of past events were retained but recent memory was impaired. He retained four digits forward but was unable to reverse four. Test phrases were recalled after five minutes, the calculation was well performed and his grasp of general information adequate. He read slowly and had difficulty remembering the point of the long passage. His judgment seemed fairly well preserved, but his insight was lacking. Writing showed fine tremors and speech was dysarthric. Physical findings displayed evidence of loss of weight, kyphosis, and scliosis, with poorly developed muscles. He had a penile scar. Pupils were irregular and sluggish but there was a tremor of the tongue, lips, and fingers. Knee jerks were hyperactive. Laboratory findings revealed the blood Wassermann to be negative, but the spinal fluid showed 22 lymphocytes, Wassermann four plus in all dilutions, protein 90, and a colloidal gold curve of the paretic type. The patient was inoculated with malaria and had a satisfactory course of 13 chills and two additional elevations without chills. Throughout his treatment he was coöperative and pleasant, his confusion cleared up and his physical condition began to improve. He gained four pounds despite the fact that he was ill from the malaria therapy. At the time of discharge, the sensorium was clear and the patient stated, "My brain seems clearer, I can remember things, and my spirits are much better."

Patient—male—age 45. Came to the hospital on January 8, 1950. He was brought in by his sister, with the complaint: "He brags and talks and tells ungodly lies." The informant states that the patient always has been a rather expansive person, and they have noticed that during the last 20 years he would brag and exaggerate things when intoxicated. During the past year they have noticed that his bragging and expansive lies have increased tremendously, and that they occur at almost any time, whether the patient is drunk or whether he is sober. For the past year they have noticed outbursts of irritability, and cite as an example the fact that about one year ago he beat up a neighbor's dog so severely that he had to pay a fine. While walking home from work one night he began to write on store windows with red and yellow crayons, and had no explanation as to why he had done this. Two months before admission he quit work without any particular reason. Since that time he has spent most of his time regaling the family with stories of his travels to Arabia, South America, and other places of tropical and semi-tropical type. He apparently has no ability to distinguish between fact and phantasy. He also brags about his ranches and about the numerous oil wells upon them, although he has no ranches or oil wells. Admission to the hospital was precipitated by two events: First, he called the police and told them that there was an old woman in his house whom he had hit over the head with a chair. This proved to be untrue on investigation. A few hours later he was observed taking a neighbor child down the street and then he stopped, took off the neighbor child's clothes, took off his own clothes and then turned and walked away. About this time he was apprehended by the neighbors and turned over to the police. This was brought up in the police court and the family was advised to bring him to the hospital. In addition to the above behavior the family reports that his memory became poor. He has been unable to play dominoes or cards with his usual skill. The patient has done construction work, had a tenth grade education and had not been in trouble prior to the present illness. He has been a moderate drinker for about 20 years and aside from the above-mentioned lying has gotten into no trouble while drinking. His sister thinks that he has always had an inferiority complex until the present illness hit him. She believes that this is a complete personality change, and expressed the belief that he must have been taking some type of drug to act this way.

Past personal history and family history contained no other information pertinent to the present illness. Mental status examination revealed the patient to be pleasant, coöperative, extremely confused, with marked expansive delusions of great wealth, many trips he had taken, and fabulous organizations he was forming. He displayed a marked defect in recent memory and some disturbance in remote memory. He was oriented for place and person, but disoriented as to time.

Neurologic examination revealed some incoördination in the left foot, hyperactive tendon reflexes, equal bilaterally, Argyll Robertson pupils and paralysis of the right soft palate. The remainder of the neurologic examination was within normal limits.

Blood count and urinalysis were within normal limits. The blood serology revealed Kolmer positive in a 1–320 dilution, and a Kahn that was positive. The cerebrospinal fluid revealed a Kolmer positive in a dilution of 1–64, a Lange of 55553210 with 30 white blood cells per cubic mm., mostly lymphocytes, and 59 mg. of protein.

The patient received Crysticillin, 300,000 units intramuscularly twice daily to a total dose of 10,200,000 units. The patient gradually improved under treatment. The expansive delusions persisted and he was given eight electric shock treatments and during the course of these treatments the expansive delusions subsided rapidly. The sensorium improved consistently and he was soon able to play skillfully at cards, the memory improved, and his judgment became fairly sound. He was discharged to his family 52 days after admission in what seemed to be a good clinical remission. His family felt that he had entirely recovered his previous personality.

In some patients, one finds a combination of paretic symptoms and tabetic symptoms. This combination is usually referred to as Taboparesis. The following case is a rather typical example of this combined form of parenchymatous-neurosyphilis.

Patient is a 46-year-old white male, who entered the clinic complaining, "I had difficulty walking in the dark, if I don't hang on to something I'll fall. My memory is not so dependable as formerly."

The patient dated the onset as three years before admission.

The first symptom was difficulty in walking, since then the difficulty has become more pronounced and he has also noticed that his vision is failing and there has been some change in the quality of his speech. He has also noticed frequent headaches, leg pains of the shooting variety, and a loss of memory. His loss of memory has been particularly marked in remembering people's names. The past history of his birth and early development reveals no information significant to present difficulty. He states that he had had a chancre 17 years before admission, also a history that he drank considerably and had been sexually promiscuous. Described his previous personality as jovial, happy-go-lucky, and carefree, without worries. Upon admission, the patient was markedly ataxic and as a result spent most of his time in bed. He was, however, tidy and coöperative, was definitely overproductive of speech and distractible. There was also a mild euphoria. His remarks were usually totally irrelevant. The patient had no evidence of hallucinations or delusions. He was adequately oriented in both remote and recent memory, retaining seven digits forward, reversing five and recalling test phrases after five minutes. His judgment and insight seemed reasonably well preserved and his speech revealed no marked difficulty. Physical examination revealed the pupils to be fixed to light with bilateral optic atrophy of mild degree. There was marked oral fetor, and cervical adenopathy. All of the tendon reflexes were absent as were the abdominals. The loss of position sense extended over the lower extremities. Laboratory examinations revealed 4-4 blood Wassermann. Spinal fluid was five cells, the protein 10, four plus Wassermann, and the colloidal gold curve of 234554210. The patient was inoculated with malaria and had six chills and elevations. After the course of malaria he was discharged to continue his treatment in the Out-Patient Clinic. He carried on well for approximately four years, at which time he was readmitted to the hospital because of a short period of confusion. This cleared up without any further treatment, the blood and spinal fluid Wassermann was found to be entirely negative. The patient was discharged to the Clinic to continue his anti-luetic chemotherapy, but fever therapy was not repeated.

Juvenile Paresis. Juvenile paresis is a form of congenital neurosyphilis and is the most chronic progressive type of neurosyphilis. The symptoms may appear in infancy or at ages up to the early 20's. Your authors are reluctant to make a diagnosis in adults unless there are other signs of congenital syphilis such as malformed teeth and interstitial keratitis. Previously indiscreet young housewives or careless young men often convince the newly acquired spouse that their syphilis was congenitally acquired, but in most instances the "con" is an affectation prompted by the circumstances and the principal portion of the word contains more of the truth.

William Menninger has written extensively on this form of neurosyphilis, but most authors tend to neglect it. Some of the juvenile paretic patients are intellectually retarded from birth, and the diagnosis is often made by the pediatrician or psychiatrist who examines the child because of the failure to show the proper intellectual development. In many instances the child may develop normally and show satisfactory progress in his school and social relations, up to the ages of eight or 10 years. The parents then note a progressive dullness, loss of interest in friends, play, possessions, and so forth. This may be accompanied by a slowing or arrest of physical development, convulsions, interstitial keratitis, or atrophy of the optic nerve. The diagnosis is based on the clinical findings plus the uniformly present paretic formula in the spinal fluid. The blood is also positive in the majority of these children. In general the energetic treatment of congenital syphilis is unsatisfactory and cases are reported in which the paretic reaction develops in children who had had years of intensive chemotherapy because of a known positive blood in infancy. The special forms of treatment thought to be very effective in general paresis and other forms of neurosyphilis have been, in general, disappointing in the treatment of juvenile paresis. In some instances the extensive fever chemotherapy routine seems to relieve the symptoms somewhat but your authors have yet to see an example of a complete remission in this form of neurosyphilis. The following case is a rather typical example of juvenile paresis:

John was an eight-year-old boy referred to the clinic by the school teachers and his parents who complained that he was inattentive in school, a disciplinary problem, and that he was failing to learn. Parents also complained that he was becoming increasingly irritable at home, that he was becoming a serious disciplinary problem in terms of having violent temper outbursts whenever his family attempted to correct or punish him for his frequent violations of the family rules. His mother stated that John was upsetting the entire family routine. Examination revealed a child who was fairly well nourished physically, there was no evidence of malformation of the teeth and no evidence of malformation in other parts of the body. Neurologic examination revealed pupils that were widely dilated, irregular, and fixed to light, but the pupils responded readily to accommodation. Examination of the fundi revealed marked pallor of both disks and rather sharp constriction of both visual fields. The other cranial nerves were found to be intact. Deep tendon reflexes, particularly knee jerks and Achilles were definitely hyperactive. Babinski's sign was positive bilaterally. There was a coarse tremor of the fingers and lips. Mental examination revealed the child was having some difficulty in retention, and was very slow in his processes of learning. Stanford-Binet revealed an I.Q. of 70. Blood serology was four plus and the Eagle flocculation test was positive. Spinal fluid was under no increase in pressure, the fluid was clear. Fluid contained 30 cells, predominately lymphocytes, spinal fluid Wassermann was 44 in 0.6 cc. this being the only dilution run. Colloidal gold curve was the typical paretic type. Tests revealed 60 mg. of protein. Other laboratory studies were essentially negative. The child was given a course of artificial fever therapy combined with mapharsen and bismuth injection during each heating. At the conclusion of these treatments he was placed on alternating treatment with tryparsamide and trivalent arsenicals and heavy metals. This child's behavior improved and he was able to continue on in school. In spite of this, however, he remained irritable, a problem to both his teachers and his mother although he was definitely much better than when first seen. His intellectual development continued to be rather retarded and while he has lost no further ground and shows no further evidence of deterioration, he still has evidence of organic nervous system involvement after approximately five years of intensive follow-up treatment.

TREATMENT OF NEUROSYPHILIS

The treatment of neurosyphilis in all its forms demands special treatment differing somewhat from the routine treatment of early syphilis. All cases must be studied intensively and a treatment program made according to the individual needs of the particular patient under question. Some general principles can, however, be outlined. The primary difficulty in treating neurosyphilis is that the nervous system is particularly inaccessible to the various therapeutic agents. It is well known that the blood-cerebrospinal fluid barriers are impervious to many of the antisyphilitic drugs. Arsphenamine and even the newer penicillin penetrate this barrier with great difficulty and in low concentration. It may be stated that the treatment of neurosyphilis calls for a more intensive and more prolonged therapeutic program than any of the other manifestations of syphilitic infection.

Since the last edition of this book a great deal of experience has accumulated with the penicillin treatment of neurosyphilis. In the earlier stages it was felt that intrathecal administration was necessary because of difficulty in penetration of the barrier by penicillin. Further experience has shown that intrathecal therapy has many hazards and is in general contraindicated except in special cases manifested by resistance to other methods of treatment. In general, intramuscular penicillin is the most effective and preferred form of treatment of neurosyphilis. As in all other treatments of neurosyphilis the exhibition of penicillin in patients suffering from neurosyphilis, particularly of the parenchymatous type must be intensified as compared to the treatment of early syphilis with the same preparation. Experience has accumulated to indicate that intensive penicillin administration is the preferred form of treatment. In earlier editions of this book the various types of neurosyphilis were described separately and the treatment indicated. We now believe that penicillin therapy is the most desirable treatment for all forms of neurosyphilis and in our experience the same dosage and type of treatment seems to be indicated in all forms. Penicillin injections are started as soon as the diagnosis of any type of neurosyphilis is established. In our hands the optimum treatment has been Crysticillin, 300,000 units twice daily for a total dose of 10,000,000 to 12,000,000 units. Other centers have treated neurosyphilis with old penicillin, most of them giving 12,000,000 to 15,000,000 units as a total dose, and usually in a daily dose of 300,000 to 500,000 units per day. Stokes, who originally felt that penicillin alone was adequate treatment for neurosyphilis, after five years follow-up still believes that penicillin treatment need not be followed or accompanied by any type of fever therapy. A similar opinion is expressed by Dattner. Curtis states that penicillin alone is as satisfactory as penicillin and fever in paresis and taboparesis, but feels that malaria therapy may be indicated in certain resistant cases. In our hands, an occasional case of paresis will show a Herxheimer reaction on intensive doses of penicillin. It has been our program to continue to give regular doses of penicillin and to date the cases have subsequently shown an improvement and have had an ultimate prognosis not different from patients not showing the severe reaction to the penicillin treatment. Patients who have failed to show improvement on penicillin alone are still given fever therapy, although it is our impression that cases not given fever therapy will continue to show improvement after the penicillin treatment is discontinued. If, after a single course of penicillin, the symptoms persist and spinal fluid serology still shows activity in terms of increased cell count and increased protein, it is a wise policy to repeat the course of penicillin therapy. We have also had favorable results with the use of further penicillin therapy in patients who have shown either a serologic or clinical relapse. Older methods of treatment by means of the arsenicals may have their place in patients who cannot tolerate penicillin treatment or who show no improvement after repeated attempts at penicillin therapy. We have not had occasion to observe a patient in the latter category, but such cases may occur. Long-term follow-up results of patients treated with these methods of therapy are not available but the prompt and satisfactory remissions in the early phases of treatment with penicillin and the satisfactory reversals of the spinal fluid serologies in a high percentage of cases, warrant optimism as to the final outcome in these patients. After five years of extensive experience with penicillin therapy in centers throughout America, one may say that penicillin therapy is much the safest treatment for neurosyphilis and is apparently more effective than any other form of treatment for the various types of neurosyphilis.

FEVER THERAPY

For information for physicians who may wish to exhibit fever therapy in some of its forms, the sections on *Therapeutic Malaria* and *Artificial Fever Therapy* are retained in this edition. As stated before, it is the authors' belief that these forms of therapy are rarely indicated in the face of the fine results obtained from the use of penicillin alone. In the occasional penicillin resistant case, fever therapy may be indicated.

Therapeutic Malaria. Therapeutic malaria has been used more extensively than any other form of fever therapy. It was discovered by Wagner-Jauregg and its present method of application was perfected by him. His work with malaria has been summarized in his obituary written by Bruetsch. Wagner-Jauregg himself summarized his feelings concerning the management of paresis in 1939. The literature contains innumerable reports concerning the efficiency of malaria therapy and some of these have been previously referred to in the section on treatment. Some authors have postulated the theory that malaria therapy works by a stimulation of the reticuloendothelial system. Davidson stated that leukopenia brings about this stimulation. Bruetsch who has written most extensively on the topic believes that the capillary endothelium proliferates as part of the reticuloendothelial reaction and that malaria specifically brings about this stimulation. Some workers, notably Bruetsch, feel that malaria therapy may be effective even though it produces no febrile paroxysms and they think that the reaction is due to some specific action of the malaria itself. Needles has shown that patients with endemic malaria have a very low incidence of neurosyphilis. This is an observation similar to that originally made by Wagner-Jauregg prior to his development of malaria therapy. Beck conducted a series of experiments in which he attempted to show the presence of specific immune bodies in malaria sera which would reduce the susceptibility to syphilis. He was unable to detect any difference between the action of malaria sera and the serum from normal animals. The Coöperative Clinic Study shows a definite correlation between the height of fever and the therapeutic results irrespective of the method of heating used. It is therefore improbable that the malaria plasmodium per se has any direct therapeutic action, but the beneficial effects seem to be due to the febrile response and the various temporary physiologic changes produced by the fever.

Patients should have careful clinic and laboratory examinations prior to inoculation with the malaria plasmodia. Advanced age, marked hypertension, pulmonary tuberculosis, marked anemia, renal insufficiency and cardiac insufficiency from any cause, make malaria therapy a hazardous procedure and are ordinarily considered to be contraindications. Each case must be considered individually, however, and treatment planned according to the patient's particular needs. The technique of therapeutic malaria has been described in some detail but a brief discussion of the technique will be included.

The parasite most commonly used is the *Plasmodium vivax* or so-called "tertian malaria," which in pure strain produces a chill and fever each 48 hours. Certain patients are resistant to "tertian malaria," particularly Southern negroes, and in these cases "quartian malaria" from the plasmodium malaria will often infect the patient. Branche has used "quartian malaria" extensively and finds it to be equally effective to the tertian form. He believes the 72 hour interval between paroxysms to be of advantage because it allows the patient more time to recuperate between bouts. The disadvantage of this form is the fact that the incubation period is long and thus holds patients in or near the hospital longer than is desirable from an economic viewpoint.

INSTRUCTIONS FOR THERAPEUTIC MALARIA:

1. Check blood count, blood type; blood chemistry for N.P.N. urea, creatinine, and sugar; urine; and skin for quinine sensitivity. Take EKG, chest x-ray and visual fields.
2. Inoculate patient with 2 cc. of blood intravenously or 6 cc. of blood intramuscularly taken from another patient who is running a course of malaria. If the donor is in another ward or different city, the blood should be citrated upon withdrawal and placed in a sterile test tube. It may be kept for two to four days at room temperature and sent in ordinary mailing cartons to any part of the country by air mail.
3. During the incubation period, and before inoculation, patient should be on high caloric, high vitamin diet. Iron preparations are given routinely to help prevent and combat anemia.
4. With the initial chill patient should be covered with blankets and hot water bottles to encourage the temperature rise.
5. Blankets and bottles should be left in place after the chill in spite of patient's protests as it will maintain a high fever level for a longer period of time. During this period patient may drink tap water, but it should not be iced.
6. Temperature should be checked each 10 minutes during the rise and each 15 minutes thereafter. Temperatures of 105–106° F. (R) are well tolerated by most patients. Temperature may be maintained for five to six hours at a level of above 104° F. (R), but in most instances it will fall spontaneously before this time elapses.
7. Quinine and antipyretic drugs should not be administered.
8. If the temperature goes above 106° F. (R) or persists beyond six hours it can be reduced promptly by administering 100 cc. of 2 per cent

sodium chloride I. V. and by allowing an electric fan to blow over the exposed body while a nurse rubs it vigorously with bathing alcohol to bring flushing of the skin.

9. Blood pressure is checked daily, urine twice weekly and blood N.P.N. and urea weekly.
10. Between bouts patients receive fluids in abundance and 45 grains of sodium chloride daily.
11. After 50 hours of fever above 104° F. the malaria may be terminated.

In institutional work make sure that transfer of the plasmodium to the next patient is carried out before termination is started. Then order quinine sulfate grains 10(0.6 Gm.) t.i.d. for 10 days and grains 20(1.3 Gm.) one day each week thereafter for six to eight weeks. At the same time start neoarsphenamine 0.3 Gm. increasing to 0.6 Gm. for four doses. Patients are then started on tryparsamide as outlined under general paresis.

COMPLICATIONS. Complications are infrequent and usually trivial in properly selected and managed cases.

Secondary anemia may become severe, but is avoided in many cases by the routine use of one of the iron preparations in large doses, i.e., iron and ammonium citrate 60 gr. daily, or Blaud's mass 30 gr. daily, or feosol 15 gr. daily. If the anemia is persistent, transfusion usually boosts the blood count to a satisfactory level. In an occasional case the count will continue to fall in spite of these measures, and may fall below two million R.B.C. In such circumstances the treatment should be terminated but this does not contraindicate reinoculations at a later date after the patient regains a normal count.

Leukopenia is a physiologic concomitant of malaria and must be expected. Micro-movies have shown that the leukopenia is probably due to an adherence of the leukocytes to the walls of the smaller arterioles, and to a clumping of the blood cells. It is probably unnecessary to terminate the infection because of marked leukopenia although some workers believe that a W.B.C. below 2,000 cells per cmm. is an indication for termination.

Signs of renal insufficiency such as a marked albuminuria, hematuria, casts in the urine, or accumulation of total N.P.N., urea or creatinine in the blood are indications for termination. Mild albuminuria or an occasional cast are danger signals, but the course may be continued with more frequent checks on renal function.

Shock or cardiac failure is infrequent. A low systolic blood pressure with an increased pulse pressure is often encountered and while of no great consequence may be readily combated by intravenous saline solution.

Prolonged high fever (106° F. or over) is a sign of heat stroke and responds readily to fluids and chlorides. The temperature may be brought down quickly as outlined above. The course of malaria may be continued after such an episode, and auxiliary fluids by vein, or under the skin between paroxysms usually prevents the reoccurrence of this particular complication.

Convulsions may occur, especially in patients with chronic meningeal involvement. They are best combated by hypertonic fluids I.V. and by anticonvulsants such as phenobarbital. In patients with this complication the malaria may be continued cautiously and seizures minimized by daily dosing with phenobarbital gr. 1½(0.1 Gm.) t.i.d., similar to the plan used in epilepsy. If the seizures increase in severity and frequency the malaria should be terminated.

Rupture of the spleen has been described. The majority of these patients show some enlargement and tenderness of the spleen, but we have never encountered this complication. If the spleen seems to become acutely tender or to be greatly enlarged the course of the malaria should be interrupted. In case of rupture, the symptoms would be those of massive intra-abdominal hemorrhage with severe shock. Treatment is transfusion and immediate operation. Patients with neurosyphilis plus malaria do not make good operative risks and they will probably die if this emergency arises.

Intracranial hemorrhage may occasionally complicate the picture. The malaria should be terminated and the patient treated conservatively according to the routine for apoplexy from any cause.

The results from malaria therapy vary in the clinics reporting. This variation is probably due to the degree of involvement of the cases reported, the technique of the persons administering the fever, and the amount and type of follow-up treatment and care.

The Coöperative Clinic Group findings in the treatment of paresis were given above. In our series 58 per cent of paretic patients were benefited by malaria therapy.

Therapeutic malaria is a more hazardous treatment than artificial fever. It is cheaper and simpler to administer to *institutional paretics.* It requires no special equipment and the number of patients treated is limited only by the bed space available and the nursing help at hand. Thompson has advocated home treatment with therapeutic malaria but we could not recommend this method as these patients are very ill and require constant supervision by trained nurses and a physician. Hoch and co-workers recommend the inoculation of a standard number of parasites as a means of producing more uniform incubation periods and a more uniform response to the inoculation. This work is scientifically interesting, but of little practical significance. Malaria therapy thus remains a useful therapeutic weapon in the treatment of neurosyphilis.

Artificial Fever Therapy. This term is used to describe fever produced by some physical modality usually called a fever cabinet or "hot box." Temperatures may be induced by hot baths, packing in heated blankets or similar crude devices which have been discussed elsewhere. For all practical purposes, however, the physical devices to safely produce fevers are of the "fever cabinet" type.

It is undoubtedly true that the Greeks, the Romans, Japanese and assorted Central American tribes used various types of steam baths, hot baths, etc.

It is equally true that this was not fever therapy per se and the temperatures produced were probably "piddling" and short at best. Modern artificial fever therapy was originated by Neymann and Osborne of Chicago. The history of this movement, in their hands, has been well presented by Neymann and will not be repeated here. It is interesting to note, however, that they developed artificial fever therapy in search for a better method for the treatment of neurosyphilis, because of their dissatisfaction with therapeutic malaria.

Simpson and Kendell, of the Kettering Institute for Medical Research, have also contributed much to the development of the apparatus, the standardization of technique and to our scientific knowledge of this field. Simpson and Kettering inaugurated a nationwide coöperative research program which has done much to place artificial fever therapy on a sound basis, founded on careful clinical physiologic, and chemical researches carried on with their encouragement and the subsidy of Mr. Kettering.

Simpson has summarized much of this experience as it applies to the treatment of syphilis, and many of the other studies have been compiled and published as a collaborative study, and edited by Simpson and Bierman. A further review of the splendid work done in the development of this technique is beyond the area of this book and those interested are referred to the abundant literature on the subject.

Before proceeding to a discussion of the technique, I should like to mention briefly the matter of the types of fever machines now on the market. This is necessary because energetic salesman extol the virtues of one machine over the other, blandly assuring you that certain wave lengths or lack of them possess mysterious therapeutic powers. This is, of course, motivated by their own enthusiasm and the desire to make a living. Several machines are satisfactory and any council-accepted machine will give satisfactory service.

Apparatus for administering artificial fever therapy is of three types. (1) The "short wave" type. This type of machine raises the patient's temperature by the passage of induced high frequency currents through the body. The temperature thus induced is maintained by means of an air-conditioned cabinet in the more modern machines and by means of an insulated sleeping bag in the older forms. The cabinet models are recommended because the patient is more comfortable and it is easier to check blood pressure, administer parenteral fluids and check the condition of the skin. The operation of this type of machine is discussed in detail elsewhere.

(2) Warren and his co-workers favor a type of machine which depends upon radiant energy derived from carbon filament lamps for fever production. This machine utilizes an insulated cabinet to preserve the temperature thus induced. The air in this cabinet is not circulated and the patient's own perspiration supplies enough humidity to maintain a very satisfactory temperature curve. The detailed instructions for the operation of this cabinet are available in the literature.

(3) The Hypertherm, or "Kettering Hypertherm" or air-conditioned cabi-

net is another widely used form of fever-producing device. It consists of an insulated cabinet through which hot moist air circulates and the induction of the fever and the maintenance of the temperature is very satisfactory in long hard service.

The details of the operation of this type of equipment is also described elsewhere and will not be repeated at this time.

Any hospital planning on the installation of a fever department should have the nurse, technician, and a physician visit some training center for instruction in the operation and management of the type of machine to be used. The general management of patients under artificial treatment is the same irrespective of the type of equipment used.

INSTRUCTIONS FOR ARTIFICIAL FEVER THERAPY:

1. Complete check-up including blood chemistry, urine, blood examination, EKG, x-ray of heart and lungs, and visual fields.
2. Omit breakfast the morning of the treatment. Enema morning before treatment.
3. Temperature is elevated to 105.8° F. (R) in 50 to 70 minutes and maintained for three hours. Patients weak, or in poor general condition, may be treated at temperature the patient will tolerate. For example, patients of advanced age will often tolerate artificially induced temperatures of 104° F. If patient's condition becomes poor, the fever can be reduced at any time.
4. Patients are given abundant salt and fluids during the heating. In our department we routinely administer 2000 cc. Ringer's Solution I.V.
5. Chemotherapy may be administered during or just prior to the induction of the fever.
6. Treatment is terminated by removal from cabinet and cooling with fans.
7. A "course" of treatment in neurosyphilis ordinarily consists of 36 hours of fever at 105.8° F. (R). This amount may be increased or decreased as indicated.
8. After treatment the patient is to remain in bed for two hours. May have food and fluids as he desires.
9. Patient may go home two hours after treatment unless the status of his neurosyphilis makes custodial care necessary.

COMPLICATIONS. Complications are infrequent if the patient material is properly selected and the treatments skillfully administered.

Restlessness and air hunger during the induction phase is rather common and is promptly relieved by oxygen inhalation for a few minutes. If persistent, a Boothby nasal mask is a convenient method of administering oxygen.

A mild tetany occurs in an occasional patient during the induction phase and is promptly relieved by injection of calcium gluconate intravenously.

Signs of collapse, heat stroke and circulatory failure rarely occur if patients are given adequate fluid and chlorides during the treatment. When they do occur the treatment should be terminated and a venoclysis started, containing hypertonic sugar solution to which salt has been added. Uncontrolled fever is the principal sign of heat stroke and is brought under control by supplying salt and fluids to the blood stream, and by cooling the patient by means of a fan. Alcohol or tepid water sponging, accompanied by rubbing keeps the cutaneous vessels dilated and allows the skin to function as a radiator of maximum efficiency.

Debilitated, anemic, mildly sclerotic and diabetic patients may be treated with caution if the clinical circumstances warrant the added risk. Treatment of this class of patients should not be attempted until the department personnel has had considerable experience with the method. Active pulmonary tuberculosis, advanced arteriosclerosis or advanced syphilitic aortitis are the principal contraindications to artificial fever therapy. We have treated a number of arrested cases of tuberculosis with no reactivation.

In skilled hands artificial fever therapy carries a lower mortality rate than malaria therapy when used in the treatment of neurosyphilis.

In our experience it also produces somewhat better results than therapeutic malaria. This experience has been verified by other workers and in our opinion artificial fever has become the treatment of choice in the management of those cases of syphilis of the nervous system in which fever therapy is indicated. The principal objections to its use are the necessity for training personnel, and the cost of the equipment. In our experience the money saved on hospitalization alone more than balances the expense of operating the department. In addition, many working people are able to continue at work, taking treatment on their day off and thus are able to support their families and pay something toward their treatment during the actual treatment period. This is in sharp contrast to the man who must leave his work and his family and be hospitalized during the course of malaria treatment. The patients who require hospital care because of their psychotic behavior or very poor physical condition will require only six to eight weeks in the hospital. This period is no longer than that required by the case running therapeutic malaria and is much shorter than the period of confinement necessary if the incubation period of the malaria proves to be prolonged. Hospitals such as state or federal custodial institutions who have the problem of treating large numbers of paretics who are necessarily institutionalized will find malaria the cheaper form of therapy.

Stafford Warren and his associates at the University of Rochester are experimenting with single, long heatings in the treatment of general paresis. The report of the Coöperative Clinic Group would indicate that the height and duration of the fever are the therapeutically important features in any nonspecific treatment used in general paresis.

In conclusion, it should be restated that neurosyphilis is part of a generalized infection. Early treatment of syphilis does much to prevent neurosyphilis and decreases the severity of symptoms when it does develop. Any treatment of early syphilis is preferable to no treatment at all. Even inadequate early treatment reduces the incidence of neurosyphilis and decreases the severity of symptoms when it does develop. The trend in treatment is earlier use of energetic fever-chemotherapy routines in all cases diagnosed as neurosyphilis. Neurosyphilis responds best to treatment in the asymptomatic phase. Spinal fluid studies are necessary for a diagnosis of asymptomatic neurosyphilis, and all cases should, therefore, have early spinal fluid examinations. Neurosyphilis is more common than was previously thought to be the case. Research work is indicated toward further increasing the efficiency of the treatment of neurosyphilis. Modern work with penicillin indicates that it may ultimately replace other forms of treatment.

PROGNOSIS

Wagner-Jauregg, the founder of the modern treatment of neurosyphilis, presents a summary of his experiences in 1939 and after a very thorough and fair discussion of the various treatment methods he concludes, "The best treatment of progressive paralysis still remains prophylactic, that is, the energetic treatment of latently positive spinal fluid is found by investigation of the fluid between the third and fifteenth years after infection. The greatest safety requires an energetic treatment by chemotherapy instituted immediately after infection so that the lodging of the spirochete in the central nervous system will in general be minimized."

The above statement of Wagner-Jauregg applies equally well today as when first written, but the form of therapy has changed. Wagner-Jauregg referred to the administration of arsenicals, but modern physicians will use penicillin therapy energetically in the early phase of the treatment. Sufficient time has not elapsed to know whether or not the energetic treatment of syphilis in its early phases will prevent the numbers of neurosyphilitic patients seen following even intensive therapy with the arsenicals. It is believed however that the prompt response to penicillin therapy will probably prevent the production of many cases of neurosyphilis. It is our general impression, not supported by adequate statistical study, that there are fewer general paretics developing today and this may in part be due to the intervention of penicillin therapy and in part due to the more intensive exhibition of the arsenicals over the last 10 to 15 years. It is too soon to know whether the use of penicillin therapy will decrease the incidence of general paresis and tabes dorsalis.

SENILE PSYCHOSES

The student who is familiar with Swift's masterpiece of satire, "Gulliver's Travels," will recall that occasionally on the island of Luggnagg, a struldbrug, or immortal was born. At birth a struldbrug has a red circular spot on the forehead directly over the left eyebrow, "which was an infallible mark that it would never die." The birth of a struldbrug was a public calamity, since even though they could not perish physically, yet they were doomed to all the physical and mental infirmities of advanced age. Swift gives a remarkable description of senile dementia:

> "When they came to fourscore years . . . they were not only opinionated, peevish, covetous, morose, vain, talkative; but incapable of friendship, and dead to all natural affection, which never descended below their grandchildren. Envy and impotent desires are their prevailing passions . . . At ninety, they lose their teeth and hair; they have at that age no distinction of taste, but eat and drink whatever they can get, without relish or appetite . . . In talking, they forget the common appellation of things, and the names of persons, even those who are their nearest friends and relations. For the same reason, they can never amuse themselves with reading, because their memory will not serve to carry them from the beginning of a sentence to the end; and by this defect they are deprived of the only entertainment whereof they might otherwise be capable."

DEFINITION

The senile psychoses are progressive mental disorders, due to pathologic old age, marked by defective mental functioning and notably by impairment of recent memory.

ETIOLOGY

Brain destruction conditioned by cerebral arteriosclerosis and other factors including old age and possibly by toxic and hereditary influences. The greatest incidence is between the ages of 60 and 75. Meggendorfer finds a familial tendency and believes that alcoholism favors early development.

Francis Kallman has reported a fascinating series of twins who have reached the senile period showing striking similarities in appearance, symptoms, and general physical and mental deterioration, in spite of the fact that in many instances their environments have been quite different throughout the greater portion of their lives.

PATHOLOGY (NEUROPATHOLOGY—N. W. WINKELMAN)

Grossly, the brain is small—the convolutions narrow, and the fissures wide, this being especially marked over the frontorolandic cortex. The pia-arachnoid is markedly thickened and somewhat hazy; the sulci are filled with collections of cerebrospinal fluid. The vessels, especially those at the base are tortuous and sclerotic.

Microscopically, the cortical sections show definite atrophy with loss of ganglion cells and increase of glia, with prominent vessels—made prominent by their thickened walls. In places the vessels show a few cells in their lymphatic spaces—which prove to be fatty granule cells. An excess of fat is present throughout the entire cortex—not only in the parenchyma but throughout the interstitial tissue. With Bielschowsky stain (Fig. 10) the characteristic senile plaques are visible—in all stages from their beginning in the breaking

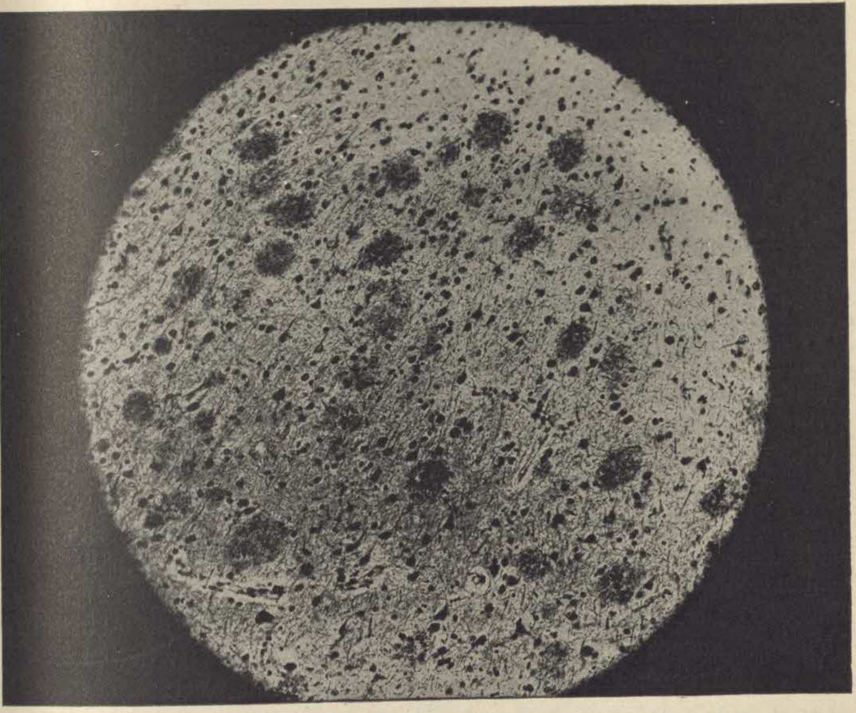


FIG. 10. Senile plaques, silver stain. (Section by Neubuerger—Photo by Mills.)

up of large glia cells to the final plaque formation. (Stages seen are those given by A. Jacob.) These plaques are present not only in the cortex but in the basal ganglia as well.

The blood vessels show thickened walls, due (1) to increase in the intima, of a degenerative rather than of a proliferative nature; (2) to fibrosis of the adventitia.

The cellular picture throughout the entire brain is that of (1) great decrease in number, (2) fatty changes, (3) atrophic changes, (4) Alzheimer's fibril change is a feature.

The pia-arachnoid show a definite fibrosis with the presence of abnormal elements—mainly gitter cells and detached mesothelial cells.

The convolutions are narrowed and uneven. The ventricles are widened, frequently giving the appearance of a hydrocephalus.

SYMPTOMS AND DIAGNOSIS

Senile psychoses are classified into clinical types according to the predominant symptoms. A case of the simple deterioration type, one of the paranoid types, and one of the presenile types, will be presented. The percentage of these types is as follows:

Simple dementia	49.00%
Delirious and confused types	18.61%
Depressed and agitated types	7.39%
Paranoid states	15.75%
Presenile types, Alzheimer's disease, Pick's disease, and Presbyophrenia	8.54%

A well-developed case offers no diagnostic difficulties. Early recognition attains great importance, in view of the fact that the senile dement is readily victimized by designing individuals, and thus may bring disgrace to his family and waste his resources. There is apt to be a prodromal period of several months duration, during which the patient is irritable, sleeps poorly, complains of malaise, muscular weakness and anorexia, and becomes seclusive. The mental powers show impairment, recent memory becomes uncertain and faulty recollection is supplied by crude fabrications. The patient wanders about aimlessly and may lose his way. The emotions deteriorate. Normal sympathy is lacking. Obstinacy, stubbornness, self-centering of interests, selfishness, outbreaks of temper, moral laxities etc., distort the personality and lead to troublesome behavior. Penuriousness is common. The signs of senility and physical decay are obvious. This is the background of the clinical picture. The predominance of special features determines the variety of the senile psychotic reactions. The following case summaries are typical:

Senile Psychosis, Simple Deterioration. Patient L. D., age 69 years. The onset was very gradual, extending over the last three years. The patient's relatives noted marked forgetfulness with the development of periods of confusion during which the patient wandered about the house at all hours of the night imagining she was fulfilling her usual household duties. At times she wandered away from home and had to be brought back by the police. During the past year she had been very irritable and "nasty," particularly toward her daughter who has been considerate and helpful. There has been a marked decline in her general physical condition.

The personal history was essentially negative. Mrs. L. was always in good general health, and has seven children all of whom are living and well. She has been a widow for the past 20 years and worked as a cook until five years ago when her daughter undertook to care for her.

The mental examination of the patient revealed her to be a very simple, childish, woman of advanced age. She frequently became confused and was unable to find her bed.

Her talk was irrelevant but she was able to describe accurately many events that happened years ago when she was living on a farm in Virginia. Her relatives verified many of these statements.

Her mood tended toward depression. She felt "wretched and downhearted," because she thought that she had been neglected at home and was very paranoid in her attitude toward her daughter. She accused her of hiring attendants to take all of her property from her while she was still living and have her placed in an "Old Ladies' Home" for life. Mrs. L. was very indignant and raised her voice when she described this mistreatment. No hallucinations were elicited.

She was disoriented for time and person, but realized that she was in the hospital. There was marked impairment of recent memory but excellent memory for remote events. At times to fill in discrepancies in recent memory she used fabrications. For instance, she said that yesterday she was walking downtown doing the morning marketing, described her purchases, and then asked indignantly, "What am I doing here?" Every time she reminisced she described accurately former experiences. She could retain only four digits. She was unable to describe the "cowboy story," or to retain an address given her. She showed poor grasp of general information, calculation, and judgment. She had insight into her condition. "I am just old and too forgetful and absentminded," was her way of describing her condition.

Physically, we found a feeble old lady, 5′1″ tall, weighing 127 pounds. Her hair was gray. Marked atrophy of the skin. Advanced arcus senilus. Blood pressure was 160/95. Heart sounds were of poor quality. All other systems were negative. The neurologic examination was negative. Blood Wassermann was negative.

Her course in the hospital was uneventful. She was recommended for commitment. One year after commitment there was much evidence that her condition had progressed and she still continued to show depression.

This case illustrates the beginning of senile psychosis which usually occurs after 65 years of age. An onset with forgetfulness, memory defects, periods of confusion (especially nocturnal agitation), is to be expected. Depression and marked paranoid trends are frequent. Many of these patients have insight into their condition and psychiatrists feel that commitment is not always justifiable as the patient sometimes may be taken care of in appropriate Homes for the Aged without legal commitment, or be under close supervision by their relatives.

Senile Psychosis, Paranoid Type. Patient J. K., a 79-year-old white male, was admitted under the 1927 law of Colorado when he pleaded guilty by reason of insanity to a charge of killing a county farm official. The patient shot and killed the County Farm superintendent against whom he had nursed fancied grievances for a number of years. He admitted that he had a revolver with him every time he talked to the superintendent during the year prior to the slaying. In the past ten years since his admission to the County Farm he has become extremely angry when they accused him of things he did not do. He felt talked about constantly and discriminated against by the man he killed.

The developmental history was unobtainable since there were no other informants and the patient's memory was wholly unreliable.

The patient remained in bed since he was too weak to be on the ward. He was untidy and required constant supervision by attendants. He complained constantly of head noises and dizziness. There was extreme circumstantiality of talk but his answers to questions were coherent and relevant. Of his spirits he said he felt "numb" and had "no ambition." He acknowledged irritability most markedly in recent years. His sleep he said was poor in the early morning hours.

Most prominent in examination of special preoccupations were the paranoid trends.

These were directed against his entire environment at the County Farm but particularly against the superintendent. When asked if he felt discriminated against by the latter he replied, "decidedly so. He treated me worse than any other. He was always doing stinkin' little things to tantalize me."

He believed the other inmates talked about him and referred to him as "that crazy old bee man." Delusions of being robbed were elicited. There were no hallucinations or ideas of passivity.

He was completely disoriented for time and place. Both recent and remote memory were very defective and he stated in response to questions. "Oh, dear, everything's a blank." He was unable to retain even four digits. Could reverse none and failed to recall even one object in six after three minutes. Calculation was impossible and attempts to examine for grasp of general information elicited only the reply, "My, if I only had my memory together." Judgment and insight were lacking and the patient was unable to write his own name.

He appeared definitely senile, and somewhat stooped, walked with a shuffling unsteady gait, was quite deaf and spoke indistinctly. Remaining teeth were carious, dirty, and broken off. He was emaciated and the ribs were prominent.

Chest was hyperresonant; the aortic second accentuated. There were old abdominal scars and neurologically abdominal reflexes were absent while the knee jerks were sluggish.

All laboratory procedures including blood, urine and spinal fluid examinations were negative.

During hospitalization the patient was exceedingly feeble, ate poorly and showed a rather characteristic day-night reversal of sleep. Paranoid trends, complaints of roarings in his head and thinking difficulty were frequently expressed. He was returned to his county, stood trial for the slaying but was duly committed to the State Hospital because of his senile deterioration upon which basis the crime had occurred.

The complete disorientation, recent and remote memory defects, gross sensorium deficit, clearly point out the organic basis for this psychosis. In view of the patient's age and physiologic changes of a senile sort, we are justified in concluding this to be a senile psychosis. Delusions of being robbed are exceedingly common in the senile and must be considered carefully from a social aspect when they reach the proportion as to involve individuals whose lives become endangered, as in this instance. This fact is one of the strongest arguments for commitment of the paranoid senile.

Course and Progress

The course is essentially chronic and progressive and the outlook absolutely unfavorable. Pneumonia, the "friend of the aged," may release the patient in a few years, or chronic colitis, cystitis, or decubitus may close the scene.

Treatment

It should be remembered in the management of patients suspected of having senile disorders that intercurrent infections or decompensations may be causing a marked exacerbation of the senile symptoms. In our experience, some of these patients can be rehabilitated and returned to their families. Careful evaluation of the cardiac function will at times expose a mild degree of decompensation and proper digitalization will in many instances bring about marked clearing of the sensorium and some patients can go home for months or in some instances years of life with their families before hospitalization becomes necessary. We have found some patients who are poorly nourished due to inattention to their diet and to vitamin deficiencies. In our experience management of these patients with parenteral vitamins and with the oral administration of nicotinic acid may bring about some improvement in their mental function. Glutamic acid has been disappointing in managing the mental aspect of these particular types of patients. Cytochrome C may be tried if available but is seldom of great benefit. Insuring adequate protein intake is important in supporting the general physiologic functions. We believe that many "hopeless" senile patients can be partially rehabilitated with proper medical management.

The patient should be protected from the consequences of his psychotic behavior: To be kept in mind are the liability of physical injury, of sexual offenses, disgraceful marriages, etc. Pyromanic proclivities or simple memory losses may result in serious burns and loss of property. Suicide is frequent. An easily digested diet, warm clothing and measures against constipation may be provided. Insomnia may be controlled by mild hydrotherapy and simple hypnotics of which sedormid offers perhaps the most satisfactory results because of its quick action and elimination. Often a mental hospital is the wisest solution, not only for the patient but to relieve the distress of the family.

When institutional care seems inevitable, special types of institutions should be provided for the care of the senile patient. The incarceration of these patients in hospitals designed to care for acute mental disturbances is to be deplored. Specially designed institutions to care for the problems of the aged and infirm are to be preferred, and should provide special facilities for recreation, sunning, and other types of activity within the limits set by the physical decrepitude of the patient. There should be ample facilities for visiting in semi-privacy with members of the family and close friends. Some provision should be made for the patient to have about him some of his personal possessions to which he ascribes sentimental value. This is one type of patient where the provision of facilities away from urban areas rather than in the centers of population is to be preferred, as the patients can be allowed much more freedom within a rural or semi-rural environment. While medical supervision is necessary in these cases, they do not need the active psychiatric care necessary in the more acute mental problems and for that reason the necessity for being a part of a large medical center is less pressing, provided adequate medical consultation is available.

ALZHEIMER'S DISEASE

Alzheimer's disease is an early presenile deterioration which usually leads to a definite dementia. Cases have developed as early as 40 years, usually with marked affective disturbances, often with aphasic or apractic symptoms. At autopsy approximately one-third of the nerve cells are destroyed and are replaced by darkly staining fibril bundles in the form of miliary plaques. These plaques are the result of the degeneration of nerve cells and thickening of the glia elements and are regarded as pathologically diagnostic. (Bonfiglio, Binet, Bielschowsky, Fuller, and Klopp.)

PICK'S DISEASE

Pick's disease is a disease characterized by a slowly progressing dementia produced by marked atrophy of the frontal lobes which is demonstrable by pneumoencephalogram. It occurs most often in women, but may occur in either sex in the 30 to 60 year age group. The following case is a rather typical example of this disorder.

Patient a 57-year-old physician, seen in December, 1945. One of us had known him intimately for 25 years. He had been eminent in his specialty and in his personality he was normally out-going—a pleasant companion and a gentleman. Happily married, he has three children, one a doctor in the Navy Medical Corps.

When first seen he was in a condition of what appeared at first glance to be an acute rigid catatonic stupor. However, his eyes and facies were alive with fear, and when approached he shrank away in terror. He did not recognize the examiner. The sketchy neurologic examination that could be made revealed nothing significant.

The patient had been in the same state for three months. He had uttered not more than a dozen words and these not pertinent. He had to be spoon fed and usually was not able to control his bodily functions. Two years previous to the onset it was noticed by his family and friends that sometimes he "lost his sense of direction" and tended to drive on the left side of the road. These symptoms did not increase markedly and he had been able to carry on his large consulting practice. Following the loss of a son in battle, he reacted with normal sadness "but not more than that of his wife." Following an automobile accident, in which he ran into a truck, he abandoned his car and apparently wandered about the city streets for about five hours. When he did get home he could not locate his bedroom.

Following this he progressed rapidly into a state of apprehensive, mute, catatonic-like stupor.

Pneumoencephalography and other tests clearly confirmed the diagnostic impression of Pick's disease.

PRESBYOPHRENIC TYPE

These patients show marked memory and retention defects and disorientation with preservation of mental alertness and ability to take in the surroundings. Suggestibility and fabrication are marked symptoms and in general they resemble a Korsakoff's syndrome.

PSYCHOSES WITH CEREBRAL ARTERIOSCLEROSIS

The differentiation between senile and arteriosclerotic psychoses is always difficult and sometimes impossible. Necropsy findings usually sweep aside theoretical clinical considerations. In general, arteriosclerotic brain disease occurs somewhat earlier in life. Peripheral blood pressure is not a safe index since it is not necessarily high. The authors feel that they have diminished their own margin of diagnostic error by refraining from the diagnosis of arteriosclerotic brain disease unless there is evidence of general (headache, dizziness, fainting attacks, etc.) and more particularly focal (aphasis, paralyses, etc.) brain damage.

PATHOLOGY (NEUROPATHOLOGY—N. W. WINKELMAN)

Grossly, the brain is somewhat smaller than usual. There is marked convolutional atrophy especially over the anterior half of the brain with an overlying thickened and translucent pia-arachnoid which is fibrotic—it contains some phagocytic cells—mainly of the granule cell type. The arachnoid is particularly thickened with little nests of arachnoidal cells at intervals. The cortex is narrower than is usual—with a lessened number of ganglion cells in all layers and with an increase in the number of glial nuclei. The ganglion cells show all types of changes: Chromatolysis, sclerosis, atrophy, fatty degeneration, etc. Here and there throughout the entire brain, especially in the gray matter, are small areas of softening, sharply delimited, filled with granule cells laden with fat and blood pigment—carrying their burdens to the neighboring vessels about which they are collected—in the perivascular lymph spaces. These softened areas are in various stages—some recent, some old, and are in relation to the blood vessels.

The blood vessels are found to stand out very prominently because of their thickened walls which on further study are seen to involve the intima mainly, and the adventitia to a lesser extent. The intima is thickened irregularly being degenerative in character with reduplication and fragmentation of the elastic lamina. Many of the vessels are hyalinized. Bielschowsky stains show no senile plaques in any of the sections studied. Fat stains show little fat except in the areas of softening, or about the vessels.

SYMPTOMS

The symptoms are best illustrated with a case report.

Cerebral Arteriosclerosis with Psychoses. L. A., a 57-year-old male, was admitted on a court order for observation. He complained that, "I have weak spells, I've had them for four years. I get dizzy, sometimes I think it's my mind. My family upsets me all the time.

As corroborated by the family the patient was seemingly all right and presented no antisocial behavior until about four years earlier. Since then he has grown irritable, complains frequently of dizziness and expresses numerous somatic complaints. He argues and disagrees with everyone and is domineering in the home. About one and one half years ago he was arrested and jailed after threatening his wife with a shotgun. In the past year he has shown a great deal of emotional instability and expressed ideas of infidelity on numerous occasions. Ten days prior to admission he backed four members of his family to the wall with a knife and threatened to cut them to pieces, "just to show them I was still boss."

The developmental history is that of an individual with a sixth grade education with no serious illnesses or accidents who had outgoing social interests and whose marriage had been compatible until about four years ago. He had farmed all of his life.

The family history was significant in that his mother and one sister died of "apoplexy."

His examination upon admission showed him to be a neat, well-nourished male, of stated age, who displayed prominently emotional lability, weeping frequently but quickly shifting to a different mood level. His talk was coherent and relevant and he displayed a defensive attitude with definite paranoid trends. He admitted increased irritability for four years and said he occasionally lost his temper. He was preoccupied with his wife's supposed infidelity and accused his children of wanting him "out of the way." He believed they purposely did things to antagonize and upset him. Hallucinations were not elicited. Orientation was satisfactory but examination of remote memory was punctuated by such remarks as "I'm gonna guess." "Now let me see," and "Well, sir, I can't tell you." Recent memory was intact. He retained six digits forward and reversed four. He recalled four or six test objects after three minutes. Calculation and general information were fair but judgment was impaired and insight was wholly lacking.

Physically he showed an athletic habitus, tremors of the tongue and fingers, retinal sclerosis and a blood pressure of 106/70. Laboratory tests were noncontributory.

He was adjudged incompetent on the basis of his psychosis with cerebral arteriosclerosis and committed to the State Hospital.

This case gives a fairly typical picture of psychosis with cerebral arteriosclerosis. The age incidence, increasing irritability, dizziness, emotional lability, ideas of infidelity and sensorium defects are all thoroughly characteristic. It is interesting to note in this case that a sister died of "apoplexy." Osler has pointed out heredity as a very important factor in the development of arteriosclerosis.

The most characteristic organic defect in this disorder is a "spotty sensorium." The patient may remember certain events from the remote or recent past at one time, and forget them at another. This is distinguished from the usual memory pattern in senility, where recent memory fails first, with better recollection of events in the remote past. In addition to this symptom one finds the usual organic signs of irritability, emotional lability, decreasing judgment, and slowing of the mental processes. As in other types of organic illness, in the cerebral sclerotic the functional pictures of manic, depressive, or paranoid coloring frequently overlay the organic pattern. These latter symptoms are apparently due to the previous personality organization of the patient. Thus the outstanding characteristics of the cerebral sclerotic, in contrast to other forms of organic mental disease, is the fluctuation in the mental picture, the severity of the confusion and of the other organic symptoms varying considerably from day to day or, at times, from hour to hour. The course is one of steady deterioration of the fluctuating picture, and in the more advanced stages the picture tends to stabilize into an organic type of psychosis indistinguishable from marked senile or general paretic state.

Treatment of Psychoses with Arteriosclerosis

There is no known method of reversing the sclerotic process in the central nervous system or other parts of the body. We have found, however, that many of these cases improve with measures directed toward supporting the general nutrition and physiologic processes of the body plus measures directed toward increasing the blood supply to the brain. Many of these patients are agitated or depressed and have not been eating properly. We have found that supplying them with a high intake of the various synthetic vitamin preparations plus insurance of a good food intake using tube feedings if necessary to insure sufficient intake of protein will in many instances bring about a general improvement in their condition. To this we have routinely added 400 mg. of nicotinic acid each day. This is given in the belief that it improves the blood supply to the brain as has been reported in experimental work in nonsclerotic animals. Many of these patients seem to improve, become less confused, less irritable and show some improvement in memory under this management. The improvement is temporary but will often permit the patient to return to his family and at times to some form of work. Patients who develop symptoms of depression and agitation with their organic changes have been treated with electroshock therapy with rather spectacular results in some cases. It is quite probable that in these cases the primary defect is an involutional type of depression but the organic symptoms have confused the picture and perhaps resulted in misdiagnosis. Because there is little to be lost in these cases, and because spectacular improvement is brought about in some, it is recommended that these cases with depressive symptoms be given a trial on electroshock treatment.

EPILEPSY AND EPILEPTIC PSYCHOSES

General Considerations

Convulsive reactions occur in a wide variety of conditions and these convulsive syndromes are usually referred to as "the epilepsies." The number of pathologic states which may be accompanied by convulsive phenomena is suggested by the excellent clinical classification of Jelliffe and White:

"1. Epilepsies of Gross Brain Disease:
    Paresis
    Cerebral Syphilis
    Hydrocephalus
    Meningitis (Luetic, Tb.)
    Traumatism (Fracture, cavernous, hemorrhage)
    Cerebral Sclerosis
"2. Epilepsies of Toxic and Infectious Origin:
    Uremia
    Diabetes
    Lead Poisoning
    Alcohol
"3. Borderline Conditions:
    Endocrine Dysfunctions
    Dystrophia Adiposis Genitalis
    Various psychoses as in manic states and in dementia praecox."

The convulsive syndrome associated with any of the above conditions, or with brain tumor and other structural alterations of the brain are more properly referred to as "symptomatic epilepsy."

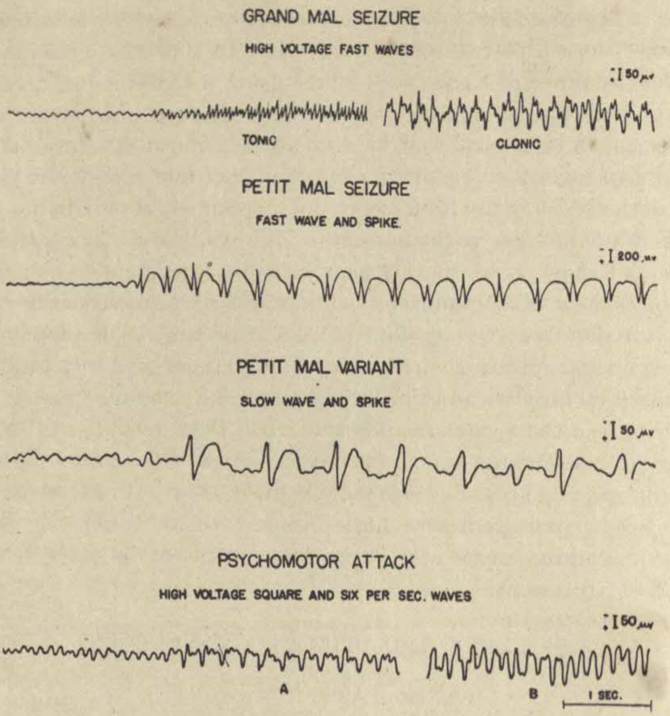


FIG. 11. Type of abnormal activity encountered in epilepsy and the variety of seizure with which each is associated (from an article by F. A. Gibbs). Grand Mal Seizure: Typical pattern, with electrodes on the left frontal region and ear. Petit Mal Seizure: Typical pattern, with electrodes on the left frontal region and ear. Petit Mal Variant: Typical pattern, with electrodes on the left occipital region and ear. Psychomotor Attack: Typical pattern, with electrodes on the left occipital region and ear. (A) represents the onset; (B) a later phase. These abnormal patterns can appear without, as well as with, clinically obvious seizures. (Courtesy, Dr. W. G. Lennox and Dr. F. A. Gibbs.)

Idiopathic epilepsy, or "genuine epilepsy," has been conclusively demonstrated to be a "disordered functioning of the rate-regulating mechanism of the brain"; "a paroxysmal cerebral dysrhythmia" by the excellent electroencephalographic researches of Lennox, Gibbs and Davis, with a conclusive confirmation by other workers in this field. Typical electroencephalographic tracings from normal and epileptic patients are furnished as evidence of this dysrhythmic state of the cerebral cortex.

Abundant evidence of the variations in the physiochemical processes of the body is also rapidly accumulating but to date the information is fragmentary and further work must be done before a clear picture may be formed from the rapidly accumulating fragments of this complicated clinical mosaic known as epilepsy. The diagnosis is often difficult. The presence of major convulsions in the absence of positive physical, neurologic or laboratory evidence of other convulsant disease or disorder justifies such a diagnosis. These seizures should be witnessed by a trained physician and such diagnosis should not be based on a lay person's description or history. If the electroencephalograph is available it offers a sure and quick means of diagnosis. Many methods for artificially inducing seizures have been suggested. The most satisfactory ones are hydration tests and subconvulsant (2 cc.) doses of metrazol. The presence of the so-called epileptic personality characteristics are also of distinct aid in establishing a diagnosis. These characteristics are egotism, conceit, emotional instability, hypochondriasis, sickly sentimentality, inadaptability to environment, cruelty, irascibility, impulsiveness, etc. The Rorschach test is of definite value in the differential diagnosis. The chief difficulty is in distinguishing between epileptic convulsions and epileptiform seizures due to hysteria. The accompanying table lists a few of the pertinent differentiating signs.

Spratling found that the disease had its onset before the age of 10 years in 38.5 per cent; between the ages of 10 and 20 years in 43 per cent; and between the ages of 20 and 29 years in 9 per cent. Gower states that 76 per cent develop symptoms before the age of 20 years.

The convulsive seizures are usually classified into two large groups as grand mal or petit mal, depending upon the nature and severity of the attack.

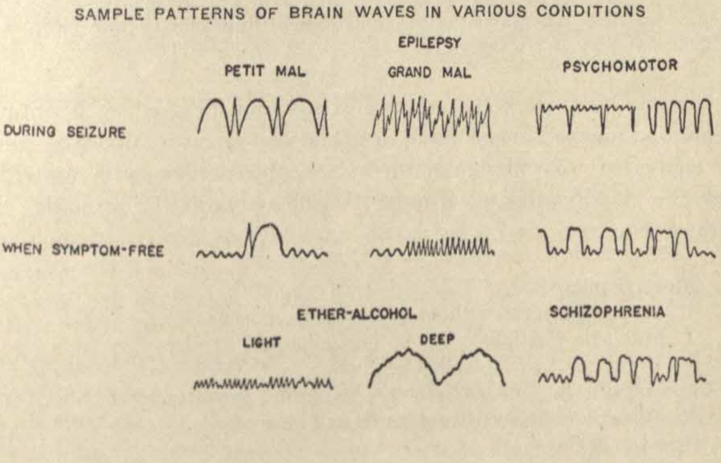


FIG. 12. Schematic patterns of brain waves encountered in various conditions. Not only the frequency of waves, but the relationship between slow and fast waves is significant. The uppermost row of curves indicates the pattern of brain waves during various types of epileptic seizures. The second row indicates the pattern in these same patients at times when they are free of seizures. The third row shows the pattern in patients under the influence of ether and of alcohol and a patient with schizophrenia. At the bottom is a portion of a normal curve for purposes of comparison. (Courtesy, Dr. W. G. Lennox.)

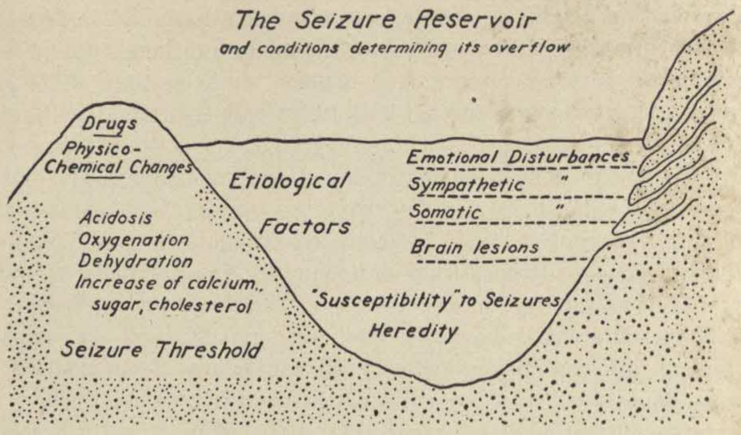


FIG. 13. The various influences which make for seizures in an individual are represented as waters impounded in a reservoir. Five groups of causes are recognized, viz., seizure susceptibility or heredity, brain lesions, abnormalities of the body outside the brain, disturbances of the sympathetic nervous system, and emotional difficulties. Through feeding springs, the volume of water may be continuously increased, so that there is a periodic overflowing of the restraining banks in the form of a seizure. In order to keep the waters below the overflow level the incoming springs must be discovered and blocked and the banks, representing the seizure threshold, raised. Careful study of the individual patient will usually discover two or more causes of seizures. The relative importance of each cause will vary in different patients and in the same patient from time to time. (Courtesy, Dr W. G. Lennox and Dr. F. A. Gibbs.)

In both instances there is disturbance of consciousness, which is minimal in the minor and marked in the major or grand mal seizures. Muscular phenomena or equivalent psychic states occur in both disorders, varying widely in degree. The classification of Kinniar Wilson contains the principal clinical types of seizure:

"A. Motor Epilepsy:
  1. Myoclonic jerks without loss of consciousness.
  2. Epilepsia partialis continua (Kojewnikoff's epilepsy).
  3. Tonic epilepsy (so-called cerebellar fits).
  4. Coordinated epilepsy (the typical grand mal attack).
  5. Akinetic epilepsy (transient flaccid states).
"B. Sensory Epilepsy:
  1. Reflex.
  2. Sensory.
  3. Affective.
"C. Psychic Variants.
"D. Visceral Variants."

It is not within the province of this book to discuss epilepsy in detail, and we plan to discuss only the epileptic psychoses. For details of the neurologic and pathologic aspects of this disorder the student is referred to the standard textbooks of neurology.

Table 2

DIFFERENTIATION BETWEEN HYSTERIA AND EPILEPSY

Convulsions Due to Epilepsy	*Convulsions Due to Hysteria*
1. Patient unconscious during and following the seizure.	1. Patient usually conscious during seizure.
2. Patient falls and often injures self.	2. Patient falls gently and injures self slightly if at all.
3. Patient cyanotic, respirations stertorous.	3. Color and respirations remain unchanged.
4. Pupils fixed to light and eyes frequently rolled upward.	4. Pupils respond to light, patient often surveys audience for effect.
5. Tongue frequently bitten, patient often drools.	5. Tongue rarely injured, salivation infrequent.
6. Incontinence of bowel and bladder often seen.	6. Incontinence rare. When present is used for effect.
7. Seizures may occur at any time, often at night.	7. Seizures occur in an emotional setting, usually before an audience.
8. Amnesia for the events during and following the seizure.	8. Patient recalls seizure and events following it.
9. Neurologic signs of cortical irritation; hyperreflexia, positive Babinski, etc.	9. Neurologic findings normal.
10. Patient usually sleeps following seizure, confused on awakening.	10. Patient usually alert following seizure, confusion infrequent and mild when it occurs.

EPILEPTIC PSYCHOSES

Types. The psychotic reactions may consist of:

a. Periodical ill-humor which may last from a few hours to several days.

b. Epileptic dream or twilight states in which there is considerable confusion.

c. Delirious confusion with hallucinations and ecstatic delusions or anxiety.

d. A "conscious delirium" in which the confusion is slight. This has considerable medicolegal import since crimes such as murder may be committed during the aimless journeys which the patient takes and for which he is absolutely amnesic.

e. Epileptic deterioration in which the dementia may become very profound. Many other less well-defined psychotic states have been described.

f. Epileptic furor states following the seizure are extremely dangerous. The patient is maniacal, homicidal, destructive, and a menace to those about him. Many horrible crimes have been explained on the basis of the epileptic furor states. We recall one case in which an epileptic killed his wife and five children with an ax.

g. Epileptic equivalent states consist of an attack of mental disturbance instead of convulsive seizure. These are frequent but are not apt to approach the violence of the furor state. Transitory states of depression and excitement also occur.

h. Paranoid states are common and should be considered among the mental reactions occurring in the epilepsies. The epileptic fugue states, although rare, are of great importance. One patient traveled from New York to London where he worked for a period of six months supporting himself and on "awakening" there was not the slightest realization of leaving the United States or of anything regarding his activities during this prolonged interval.

Course. The course of idiopathic epilepsy varies tremendously. Some children have it in a fairly severe form only to have it disappear spontaneously at puberty. Others starting at puberty may continue to have seizures intermittently throughout their lives without any observable deterioration in intelligence or behavior. Others may have the disease starting at infancy and continuing until senility without any obvious effect upon behavior or intelligence other than those brought about by the patient's slight social maladjustment. Some patients, however, show a rather rapid intellectual, moral, behavior deterioration. These patients become irritable, morose, forgetful, and combative. Some of them advance to the state that institutional care is necessary. In the experience of the authors, however, most standard textbooks take an unduly pessimistic view of progress in these convulsive disorders. In our experience progression to a psychotic state is the exception rather than the rule in most patients given one of the standard treatments. We have also seen patients who have pursued treatment assiduously for a number of years and then give it up with disgust, only to find that the seizures did not recur. Modern, intensive and prolonged treatment while offering no hope for a cure of the disease can, in most instances, bring about a satisfactory amelioration of the symptoms to such degree that the patient may go on with his occupation.

Symptoms. Symptoms of the disease vary tremendously and a few typical examples will be presented.

Epileptic Fugue State. The patient is a 45-year-old white male, admitted at the request of his attorney who states the patient is accused of a crime which he does not recall having committed. The crime was the theft of an automobile. The history obtained from the auto theft department of the Police Department was as follows. Theft of a Buick automobile was reported by a secondhand car dealer. He had not seen the car removed from the lot and could not identify the person stealing it. Car was discovered in the outskirts of the city parked beside the road in some tall grass. Parked behind the stolen car there were two trucks belonging to a construction company. These trucks had not been reported lost at the time they were discovered, but on checking the company found that they had been removed from their parking lot sometime during the night. The patient was apprehended soundly asleep between the automobile and the trucks. He had no recollection of how he got there, but states that he had had a dream of a short man in a bright yellow shirt offering him a ride and of their having a flat tire. He was not sure whether this had actually occurred or whether he had merely dreamed it during his sleep. Police report also disclosed that the patient's fingerprints were found on the steering wheel, gearshift lever, and other parts of the interior of the automobile. The operating mechanisms of the trucks disclosed no fingerprints belonging to the patient and no other evidence that the patient had ever been inside the two trucks. The patient was charged with theft of the automobile and placed in the local jail. His wife then told his attorney, as well as the chief of detectives, that the patient had, in the past, had several spells in which he would do things he could not recall. She states that at times he would come home with two or three copies of the same newspaper but no recollection of how he had obtained any of them. At other times he would wander away from his job and not show up until late at night and not know where he had been or what he had been doing. She stated that this was the first time that he had been involved with the law. She also stated that in his earlier life the patient had some type of spells. This information precipitated his admission to the hospital.

The patient's story is that on the day of the crime he was working at the shipyard, and began to feel peculiar, and started to leave the plant to get something to eat. He was stopped by the man at the gate who wanted his identification badge, so he started back into the plant to get it. He states that he has some vague recollection of trying to climb over the fence, and assumes that he must have done this because the records at the plant show no evidence of his having checked out.

The patient states that from this time on things seem like a dream and he is not sure whether or not they occurred or whether he imagined them. He states that he either dreamed or has a vague recollection of getting on a bus. The next sequence in his memory is the fact that some man in a bright yellow shirt offered him a ride in an automobile. The next recollection was being awakened by the police, and feeling very stiff. He states he assumes that he must have stolen the automobile inasmuch as his fingerprints were in it. Patient has no idea where the trucks came from nor how they got there. This is a state of mind shared by the investigating police officers. The patient's physical and neurologic examinations were entirely normal. There is no evidence of psychiatric abnormalities except rather expansive plans for the development of a portable airplane hangar which he had invented. Laboratory studies including spinal fluid serologies were entirely normal. Electroencephalogram showed a rather typical pattern of frequent bursts of three per second waves, some with crests some of spike and wave form. During his stay in the hospital, the patient was observed during two short periods of confusion. During one of these while talking to one of the senior physicians he suddenly left the topic of conversation and began to produce a lot of paranoid projections centering about his wife. He even made statements that one of the interns was behaving in a familiar manner towards his wife. This conversation was carried on fairly coherently but colored by paranoid delusions for approximately five minutes then the patient stopped talking, appeared a little bewildered, lit a cigarette, and then greeted the physician as if he had not seen him that day. He appeared to realize that something had happened to him but had no recollection of the content previously produced. He was somewhat surprised when the content of these productions were explained to him, and stated that he had no basis for feeling his wife was unfaithful and so far as he knew his wife did not know the intern whom he had previously accused of being unduly familiar with his wife. This patient was placed on treatment with dilantin gr. 1½ (0.1 Gm.) t.i.d. and phenobarbital, gr. 1 (65 mgm.) b.i.d. He was subsequently tried and dismissed because the courts felt that the crime was on the basis of his fugue attack and was not motivated by the patient's conscious desire to commit a criminal act. The patient has been followed since his dismissal. He has stayed on treatment regularly and has had no recurrence of his difficulty. Contrary to our advice, he resumed work as a structural steel worker and to date has had no difficulty with this type of work.

Epileptic with Deterioration. M. A., a 22-year-old white female, was admitted to the clinic July 7, 1931, with the informant giving the complaint of generalized seizures of 10 to 15 minutes' duration characterized by convulsive movements moving the entire body, tongue biting, and incontinence of urine.

The history stated that the first seizure occurred in the setting of the patient's second menstrual period at the age of 13 and was characterized by a cry following loss of consciousness, convulsive movements of the entire body and biting of the tongue. Urinary incontinence was present. The seizures lasted 10 to 15 minutes and were followed by a deep sleep until recently when, following attacks, she is wakeful and restless. They occur only at night, are apt to be precipitated by emotional upheavals and are definitely worse at the menstrual period. The frequency of occurrence has increased steadily until, in the past nine months, the patient is experiencing seizures each night. Coincident with the increase in the number of seizures, there has been a definite personality change chiefly characterized by a feeling of jealousy directed toward her mother and her half sister with whom she is living.

The developmental history reveals a child of normal birth and early development who had pneumonia at the age of two, whooping cough at five and fractured pelvis at the age of 11 years. She attended grade school up to the eighth grade when, at the age of 13, she left because of her seizures. Her scholastic record had not been remarkable. Sex instruction is said to have been adequate and menses made their appearance at the age of 13 without particular fear or embarrassment on the part of the patient. She was married at the age of 17 and divorced after one year on the grounds of cruelty. A pregnancy by the first husband was terminated therapeutically at four months. She entered on her second marriage at the age of 21 but was not living with her husband at the time of admittance to the hospital. There were no pregnancies from this union. The family history indicates that the patient's father was a drug addict and an alcoholic who deserted the family shortly after the patient's birth. It is otherwise negative for associated psychopathology. Upon admission to the clinic, the patient appeared untidy, lay quietly in a semistuporous state with a facial expression best characterized by bewilderment and anxiety. She responded slowly to questions and demonstrated decreased psychomotor activity. The effect was predominantly one of perplexity. She gave evidence of auditory hallucinations, especially of her mother, calling to her to "come home." Vague, ill-defined, persecutory delusions were expressed against her mother and stepsister. She was disoriented for place but not for time or person. Both recent and remote memories were grossly defective and her replies to questions concerning facts of past history were chiefly, "I don't remember." "I don't know just exactly." She repeated four digits forward, and reversed the same number. She was unable to recall the test phrase of six objects after five minutes. Her grasp of general information was exceedingly poor. She was unable to do the 7's from 100 and showed no ability to recall or interpret the cowboy story. Both judgment and insight at the time of admission were wholly lacking. Physically, the patient was of asthenic habitus, appeared confused, and disturbed during the examination, there was a slight amount of postnasal discharge and blood pressure was 120/80. Notable in the neurologic examination, were sluggish upper and lower abdominal reflexes and hyperactive knee jerks. Laboratory examinations including blood Wassermann, blood bromide and spinal fluid were all negative.

During the seven days hospitalization, the patient continued very much as she was upon admission—confused, disoriented, untidy and semilethargic. However, she responded more spontaneously to questions just prior to discharge. She was readmitted to the hospital January 26, 1934, one week prior to which she had become stuporous, difficult to manage and feed. The interval history, between the first and second admission, stated that the seizures had continued and, as before, were increased at the menstrual period. On the patient's second admission, an encephalogram was carried out which revealed marked cortical atrophy. Despite luminal and caffeine medication, seizures continued and the patient was discharged once again into the custody of her parents, later to be admitted to the State Hospital where a follow-up note spoke of her as, "unimproved."

It is interesting that the first seizure which this patient experienced occurred in the setting of her menstrual period and offers a discussion as to the correlation of epilepsy with sex hormone. The seizures were rather typical with the usual array and sequence of occurrences. Both the general survey of her social performance and the sensorium defects would indicate a deterioration which we were able to watch progress between the time of her first and last admissions, a period of three years.

Epileptic Furor State. W. R., 38 years of age. The patient was brought to the hospital in the patrol by eight police officers. Just previous to admission this man had an outbreak in which he began breaking windows with a chair, kicked his brother down the steps and struck his mother several times over the head with a chair, severely injuring her. Later he ran into the yard, picked up an ax, began cutting down the posts of the porch and defied anyone to come near him. After a battle the police were able to subdue him and brought him immediately to the hospital.

In this case there is a history of epileptic attacks from the age of 10. The seizures have been occurring at infrequent intervals. During the past few years he has been getting worse and has not worked regularly. The attack on his relatives was unexpected.

The patient showed progressive deterioration. He had two seizures during the first two weeks in the hospital followed by a furor state of several days' duration. Restraint was necessary to control him and he was soon committed. Recent reports state that he continues in the same condition with periods of confusion, violence, and assaultive outbreaks.

Epileptic Equivalent State. E. R., aged 25 years. This patient was admitted to the hospital after suddenly attacking one of his fellow workmen. The suddenness of this attack and the severity of the injury to his associate necessitated the patient's prompt admission to the Psychopathic Ward. The main facts of his previous history showed that he had epilepsy from birth which was said to have improved after puberty. The boy has had previous outbreaks with no loss of consciousness and recently these periods have been occurring at closer intervals. During the outbreaks he fights with anyone that happens to be near him. At these times he uses abusive language and talks irrelevantly and incoherently. The excitement usually lasts for many hours and is followed by quiet periods.

During the first week of his stay in the hospital the patient had several outbreaks. He attacked an orderly without provocation and it required several people to place him in restraint. On another occasion he picked up a table, threw it against the wall and defied anyone to come near him. He was extremely violent, abusive, surly, antagonistic, and obscene. A diagnosis of epileptic equivalent state was made. Since commitment he has had occasional epileptic seizures and has continued to deteriorate slowly. It has always been necessary to safeguard him and the other patients by placing him in a disturbed ward and sometimes in seclusion. Neither luminal nor bromides quieted him, nor did the use of continuous baths.

The epileptic furor and epileptic equivalent states are one of the most common causes of wholesale homicide. It is these patients who in a furor are apt to seize an instrument and annihilate an entire family. Perhaps only second to the postencephalitic temper outbursts are these patients in their degree of danger to a community.

INHERITANCE OF CEREBRAL DYSRHYTHMIA AND EPILEPSY ·

BY W. G. LENNOX, E. L. GIBBS, AND F. A. GIBBS

Conclusions. Electroencephalographic tracings have been made of the parents, siblings and children of 94 patients who had both clinical epilepsy and cerebral dysrhythmia. The relatives numbered 183. Tracings were made simultaneously from six areas of the cortex. Definitely abnormal records were obtained in 60 per cent of the relatives of patients and in 10 per cent of a control group of 100 persons who had no near relative with epilepsy. In 55 of the families records were obtained of both parents. In 35 per cent of these the records of both parents were definitely abnormal. In only 5 per cent were the records of both parents unmistakably normal. Dysrhythmia occurred as often among the relatives of parents with so-called symptomatic as among the relatives of essential epileptics. It occurred more often among the relatives of female (69 per cent) than of male patients (55 per cent). Data included five families in which there were similar twins with seizures or dysrhythmia. In each pair of twins there was a similarity of the fundamental rhythm, though seizures in both twins occurred in only one pair.

We believe this evidence indicates that the dysrhythmia of epilepsy is inheritable and that such a dysrhythmia when demonstrable may represent a predisposition to epilepsy or some allied disorder. Although clinical epilepsy is only a Mendelian recessive trait, dysrhythmia may prove to be a dominant trait. Because approximately 2.4 per cent of the near relatives have epilepsy, and approximately 60 per cent of relatives have dysrhythmia, the persons with the predisposition to epilepsy or an allied disorder outnumber actual epileptics about 25 to 1. The incidence of epilepsy is about 0.5 per cent; hence persons with a predisposition form about 12 per cent of the population.

These observations should be of practical value in the prophylaxis and eugenics of epilepsy. They should assist the physician in tracing the descent of epilepsy and in advising patients and their relatives about marriage. The presence of dysrhythmia in parents was 25 times the expected chance mating of two dysrhythmic individuals. This and other facts emphasize that if a person with epilepsy or with dysrhythmia marries, he should choose a person whose cortical electrical activity is normal.

TREATMENT

The treatment may be divided into two principal phases; (1), measures toward controlling the convulsions and; (2), general hygienic and supportive measures.

Anticonvulsive Measures

Drugs: BROMIDE. Historically speaking, bromide in various forms is the oldest and one of the most widely used drugs in the treatment of epilepsy. Both experimentally and in the author's clinical experience, the bromides are the least effective of the anticonvulsive drugs in common use. If bromides are used, the patient should have frequent check-ups to protect against the development of bromide intoxication, which is manifest by a skin rash and mental symptoms of a toxic psychosis. It is rather simple to control these patients by running periodic blood bromide examinations. In our hands, bromide is used only when other anticonvulsive methods fail, because an occasional patient will respond to bromide when the others are ineffective.

PHENOBARBITAL. The most widely used and most popular drug is phenobarbital. The dose of phenobarbital varies according to the patient's age and size. They run from as small as ½ gr. (30 mgm.) per day in an infant, to as much as 9 gr. (0.6 Gm.) per day in a large adult, with a severe form of the disease. The drug seems to be rather effective in both the grand mal and petit mal variety, but in our experience it is less effective in the so-called equivalent states. Phenobarbital has the advantage of being simple to use, almost foolproof if taken in the prescribed dosage, and is low in price. The patients may develop toxic manifestations from phenobarbital but these appear after many years of administration of the drug. Care and attention to the patient under treatment will prevent the development of these toxic states. In our opinion, all convulsive patients should be tried on phenobarbital and the other drugs used only when phenobarbital proves ineffective in controlling the spells.

DILANTIN. A third drug which is used widely is diphenylhydantoin sodium (dilantin) and was first recommended by Merritt and Putnam. This drug is, in experimental animals, the most effective anticonvulsant preparation. It has the added advantage of having no sedative effect and the patient thus escapes the dopey, sleepy feeling brought about by phenobarbital and the bromides. It has the disadvantage, however, of being quite toxic for many patients. Some patients will develop skin lesions, many other patients will develop signs of vertigo and headaches after taking this preparation. We have seen patients who come to the hospital with a diagnosis of cerebellar tumor in whom all of the cerebellar signs are due to a dilantin intoxication, and disappear immediately on withdrawal of the drug. It has also been our experience that some patients are sensitive to the drug and develop signs of toxicity on any dose. A majority of the patients, however, may take the drug in doses up to 4½ gr. (0.3 Gm.) a day, but attempts to extend the dose beyond this level will result in a rather high percentage of toxic symptoms. In our experience, this drug is a very valuable adjunct to phenobarbital in grand mal seizures and is often extremely effective when used alone in the so-called convulsive equivalent states.

GLUTAMIC ACID. More recently a new preparation known as glutamic acid has been recommended for use in convulsive disorders. It increases cerebral oxygen utilization and is therefore physiologically a sound preparation to use. Our experience with this is still somewhat meager but we find it to be of some value in some patients suffering from the petit mal form of epilepsy. It has been reported that it occasionally increases the frequency of the convulsions in the major form of the disease. The drug has the disadvantage that the adult dose is 12 Gm. per day and as the drug comes in 0.5 Gm. tablets, the total daily dosage is 24 tablets, and many patients refuse to take so many. We have been most successful in using it in the petit mal variety, in combination with phenobarbital, in those patients where the phenobarbital alone is ineffective.

TRIDIONE AND PARADIONE. These two preparations are extremely effective in petit mal epilepsy. Paradione is a modification of Tridione, introduced because it has less toxic effect on the vision and has produced a suppression of the white count in fewer instances. Patients on these drugs will frequently complain of photophobia, particularly when in bright light. The patients often complain of "smokiness" or "frostiness" obscuring external objects. The wearing of sunglasses seems to relieve these symptoms and there seems to be no permanent impairment of vision. The visual symptoms recede promptly when the patients are taken off the drugs. There are a few isolated cases of development of an agranulocytosis with the exhibition of Tridione, and it is felt that all patients on either one of these preparations should have bi-monthly white count examinations. The drugs, given in doses of 0.3 Gm. three to five times per day, are probably the most effective drugs we have in controlling of the ordinary petit mal epilepsy. In our experience, the drug may be combined with Dilantin or with phenobarbital in cases showing combined seizures.

MESANTOIN. This preparation was introduced for the control of psychomotor equivalent states. Like Dilantin, it is a fairly toxic drug, and patients must be observed for evidences of skin rash and for evidence of deleterious effects on the white count. Children may take one to four tablets per day of 0.1 Gm. each, and adults may take from two to six tablets per day of 0.1 Gm. each. Our experience with this drug has been very satisfactory. Some patients do not tolerate it well, becoming extremely drowsy and lethargic on the drug. In some individuals this effect is so pronounced as to make impossible the continued use of the drug. Because of this soporific effect we have rarely used it in combination with phenobarbital. Other patients complain of marked constipation and it is sometimes necessary to combine small doses of Prostigmine with the Mesantoin to prevent a severely atonic bowel and fecal impaction. In some of our patients the Mesantoin has also succeeded in controlling grand mal symptoms, and in these cases we treat the psychomotor equivalent and grand mal epilepsy with this drug alone.

Each of these preparations must be used either alone or in combination according to the individual needs of the patient. Some patients, for example, when placed on dilantin will become worse and we have seen a status epileptic apparently produced by taking this drug. We have also seen many patients whose petit mal seizures become more frequent on dilantin, but conversely, we have also seen many patients who have greatly improved on dilantin. It should be pointed out that when a patient is changed from one preparation to another, the change should be made gradually and the drug he has been taking should be withdrawn after he has been on the new preparation for several days.

Diet. Various dietary regimes have been recommended as an anticonvulsant measure in the convulsive disorders. Some years ago the ketogenic diet enjoyed considerable popularity among physicians, although the patients seemed rather unenthusiastic in acceptance of this diet. The ketogenic regime does seem to have a definite anticonvulsant effect, but it is doubtful that the anticonvulsant effect is worth the general discontent it produces in the patient by requiring him to stay on such an unpalatable diet.

Temple Fay recommended a dehydration regime as being particularly effective as an anticonvulsant measure in children. This, too, has some merits but, again, as originally recommended, it has produced so much psychologic trauma in children that it is probably not worth the effort and should be reserved for those cases not controlled by other methods. Lennox and Cobb have summarized these dietary measures in the statement. "Anything that keeps the patient dehydrated, acidaemic and oxygenated favorably influence the seizures. Constipation must be combatted."

It is our custom to ask the patients to limit the intake of fluids within reason, and to avoid drinking large quantities of beer and soda water. It is also our practice to ask the patients to take a full general diet and to add generous proportions of carbohydrates between meals and before retiring. This is given in the belief that a preservation of a satisfactory blood sugar level tends to decrease the frequency of the seizures. This type of dietary management is extremely popular, particularly among children and overweight adults.

General Hygienic Measures

Anything that improves the patient's basic physical tone and general health will decrease the incidence and frequency of seizures. Likewise, anything that impairs the patient's general physiologic function will increase the frequency of seizures. Many of our patients who are reasonably well-controlled on drugs have their "spells" only when they become ill of a cold, become emotionally upset, become hungry or overfatigued, or when they become constipated. In general, we recommend that the patient indulge in moderate exercise, preferably exercises of the nonviolent type such as walking, golfing, bicycling, or riding. We recommend that they indulge in these exercises by gradually increasing stages in order to improve and increase their vital capacity. We recommend that they refrain from alcoholism in any but the most moderate quantities. We recommend that they refrain from flying airplanes or going for long swims in deep water. We also recommend that they give up mountain climbing or things of that sort if they have interests along those lines. They are advised to carry on an active, normal, social life, and to indulge in any recreations or occupations they see fit other than those mentioned above. Patients are reassured concerning their becoming habituated to the phenobarbital and, in fact, the advantages to them of such habituations is explained.

It is important to give these patients the proper philosophy towards their illness. This is usually done in terms of explaining it to them and illustrating it with the electroencephalogram tracings. It is pointed out to the patient that the electrical activity in his cortex is abnormal when he is off medications, but when adequately controlled, the cortical activity is not distinguishable from that of a normal person. The use of the medication is explained to him as a substitution medication and the analogy of diabetes treated by insulin is usually used in the more intelligent patients. They are encouraged to think for themselves as lacking something in terms of the control mechanisms in their central nervous system rather than as being ill of any type of disease, or as having any nervous or mental disorder. This point of view appeals to most patients and they are able to adjust to their condition with less concern and feeling of shame. Every effort should be made to overcome the convulsive patient's tendency to withdraw from social contacts because he fears he will have a seizure in public, and because he finds in the public mind much misunderstanding and fear of his illness.

PSYCHOSIS WITH HUNTINGTON'S CHOREA

Huntington's chorea is a disease of middle life, progressive and degenerative, and is associated with gradual progressive deterioration. Both sexes seem equally affected and heredity is the chief etiological factor as contrasted to Sydenham's chorea in which rheumatism and allied infections play a prominent role in etiology. The pathology, gross and microscopic, is as follows:

Pathology (Neuropathology—N. W. Winkelman)

Grossly the brain is small (950 Gm.); the convolutions are atrophic with wide open fissures, especially marked over the frontal lobes. On section the cortex is seen to be much narrower than usual; the ventricles are dilated and contain a clear fluid. The basal ganglions, especially the caudate nuclei are shrunken. No other macroscopic findings are to be noted.

Microscopically the pia-arachnoid shows a chronic hyperplasia without cell infiltration. No inflammatory infiltrative change is found throughout the brain—on the other hand the changes are entirely of a degenerative character.

The cortex is narrow; with a poverty of ganglion cells, especially in the lower three (3) cortical layers. The ganglion cells that are present are distorted; sclerosis is a common finding; lipoid infiltration and even acute swelling are present. Even the very small ganglion cells show degenerative changes. The glial changes are mainly cellular; glial fibers are but slightly increased.

The degenerative products consist of small lipoid droplets in the glia protoplasm, with larger particles in the lymph spaces and blood vessel walls. The vessel walls themselves show no marked pathology.

These changes, while universal, are most marked in the frontal regions. The Betz cells are fairly well preserved in spite of marked changes in the motor zone.

In medullary-sheath stains the generalized atrophy is evident at first glance, especially of the caudate and putamen (striatum). The histology is very similar to that noted in the cortex but of a more severe degree. The status fibrosis of the Vogts is present. The small ganglion cells of the striatum are particularly involved. The large cells, while relatively preserved, appear increased because of the shrinkage of the tissue. They are not entirely normal—they stain much darker than is usual. Beside this severe parenchymatous degeneration there is a reactive glial proliferation present. The atrophic tissue is rich in small glial cells; with only very occasional fiber-forming cells. Fat is present in the glia cells and in the perivascular spaces.

The pallidum is likewise small, with loss of the fine fibers, but there is no marked histologic change.The thalamus and midbrain show moderate atrophy. The subthalamic body is small but with comparatively normal structure. The red nuclei, substantia nigra and dentatum are normal.

SYMPTOMS

The patient, a 60-year-old white, married, male physician, was admitted to the hospital January 20, 1927, with the complaints of nervousness, irritability, involuntary and uncontrolled movements of the extremities, difficulty in walking, talking, and feeding himself.

The onset of the patient's symptoms date back definitely 10 years earlier when, for the first time, he noticed twitching and mild choreiform movements. They did not, however, interfere or handicap the patient until about three years prior to his admission, at which time it was necessary for him to give up the practice of medicine. In addition to abnormal movements at that period, he had difficulty in remembering what he had prescribed for his various patients and had periods of confusion which made him wholly unable to attend to them. In the past three years, however, the motor disturbance has become much more exaggerated, until now, only with difficulty is he able to feed himself and his speech is impaired. For six months prior to his admission to the hospital, the intellectual deterioration has been rapidly progressing and his association with more obvious personality changes characterized by irritability and frequently explosive outbursts of temper. There is no pain. He is constipated and his general physical condition during the development of this disease process has remained fairly satisfactory. The patient was of normal birth and development and denied evidence of neuropathic traits. He had malaria in his youth and was a victim of influenza in 1918 though the attack was exceedingly mild. He successfully completed his early education and later graduated in medicine at the University of Michigan, following which, he taught pathology in a state medical school. In 1905 he embarked upon the private practice of his profession in which he had been engaged successfully until the onset of his illness in 1924. His interests were of outgoing, social nature and his personality affectionate, peaceful, pleasant and congenial prior to the present difficulty.

Of importance in the family history is: a mother who died at a state hospital, a morphine addict with chorea resembling the patient's, at age 68; a maternal aunt who also had chorea for a number of years prior to her death and a niece who, though living, has experienced two attacks of chorea—one at 12 and one at 19. Physically, he had twitchings of the face muscles, general restlessness, involuntary choreic movements, peripheral sclerosis, a soft systolic murmur at the apex transmitted through the axillae, an accentuated aortic second, blood pressure 168/80 and rales at the base of each lung. The neurologic examination revealed jerking ataxic gait, exaggerated deep tendon reflexes in both upper and lower extremities, absent abdominal and cremasteric reflexes, a positive Babinski on the left, a right ankle clonus, decreased motor power on the right, senile atrophy of the calves of the legs, marked tremors of the fingers, tongue, and facial muscles, decreased pain, touch and temperature sense, and lack of coördination in both upper and lower extremities.

Urine and blood studies were not remarkable. The spinal protein was 35, sugar 66, Wassermann negative and the colloidal gold curve, 0111321110. Upon admission, the patient showed extensive choreiform movements involving both extremities and face. At times, he let out an inarticulate cry or grunt and appeared very silly. His talk was slow and indistinct and difficult to follow. The predominant mood was that of depression and he had paranoid trends directed against his environment and his wife. These were transitory and from time to time he recognized their absurdity. No evidence of hallucinations in any sphere was elicited. He was disoriented for time and place, and his memory showed discrepancies for both remote and recent events, though for the latter it was more marked. He was unable to do the simplest calculation, both retention and recall were most unsatisfactory, though former judgment was fairly well intact and the patient realized that he was suffering from Huntington's chorea.

A fairly typical case of Huntington's chorea has been presented. The emotional changes—irritability, changes in sensorium, and prominent paranoid ideas are very frequent and progressive dementia occurs. The pathology is definitely associated mainly with a chronic degenerative process of the caudate nucleus and putamen.

PSYCHOSIS WITH BRAIN TUMOR

Psychoses with nervous disease occur in a great variety of conditions such as cerebral hemorrhage, embolism, and thrombosis, paralysis agitans, multiple sclerosis, meningitis. They do not differ markedly in symptomatology—the definite findings of an organic reaction, usually progressive in type, are present in varying degrees. In general it may be remarked that the mental symptoms associated with organic brain disease, are scarcely ever specific and diagnostic.

The following case is a rather typical example of the mental picture accompanying some tumors of the brain.

Psychosis developed immediately after operation to remove tumor from the left cerebellar hemisphere. Final commitment to a state hospital. July 19, 1917, the patient first complained of intense headaches and dizziness. This was followed by vomiting attacks, projectile type, in October, 1917. Later it was observed that he was markedly unsteady in walking. He complained constantly of vertigo. In April, 1919, the patient noticed deafness on the left side and about the same time developed transient attacks of double vision and blurring of objects. The above symptoms grew progressively worse until July, 1919. He staggered from side to side like a drunken man and he ran into people passing on his left. Two weeks before admission whistling and buzzing sounds began to trouble him. The deafness of the left side became complete. His relatives noticed some twitching of the left face. A subjective feeling of a drawing down and out of the left eyelid was present.

The family history and personal history are relatively unimportant. The physical examination before the operation was summarized as follows: Subjective feelings of dizziness, headaches in the occipital region, nausea, deafness, buzzing noises in the left ear, left facial weakness, and subjective numbness over the left cheek. There was a slight disorder of the sense of smell. Oil of cloves was not named. Extra ocular movements showed double abducens weakness. Horizontal nystagmus was present. The pupils reacted to light and contracted on convergence. Choked disks were present. There was a small area of anesthesia on the left cheek and slight facial weakness noted on the left side. The hearing on this side was present only with B.C. 158 and B.C. 256 tuning forks. On the left side there was slightly diminished strength, awkwardness in handling objects, hypotonicity, adiadokocinesis and past pointing to the left. X-ray showed engorgement of the cranial vessels. A diagnosis of cerebellar tumor on the left side was made. The patient was operated upon September 18, 1923. On laying open the dura over the left cerebellar hemisphere the convolutions were found broadened and flattened, pale yellow, and less vascular than on the right. At a depth of 4 cm. a cyst of grape size was found and removed. Other cysts were palpated nearer the brain stem. A tumor weighing 30 Gm. was removed together with cerebellar tissue weighing 27 Gm. Following the operation the patient developed a psychosis with marked confusion, disorientation, and feelings of unreality. This necessitated his transfer to the Psychopathic Hospital, November, 1928.

At this time the patient complained of no urgent discomfort. His headaches had disappeared but in addition to the early symptom of hearing defects there was an increased numbness of the left cheek and inability to move the face on that side.

The patient showed no marked abnormalities of behavior, stream of speech, or activity. There was emotional instability present as shown in his excessive irritability on the slightest provocation and his tendency to over react to all stimuli. No delusions or hallucinations were elicited. The patient was completely disoriented, frequently giving the date as 1916. He was unable to tell the events of his life in correct sequence. Many discrepancies were noted in recent memory. He could retain only five digits. He failed to retain after one minute an address given him. He could not repeat correctly the "cowboy story." Faulty grasp of general information. Poor calculation. Speech defect was present. Poor judgment and insight.

During the stay in the hospital there was no marked change in his condition. He became more confused, irritable, and had agitated periods when he was extremely troublesome in the ward. He often walked about hunting for his bed and misidentified the other patients as former acquaintances. The disorders of the cerebellar defect continued to be present.

Patient died two years later. Autopsy revealed large glioma of the left cerebellar lobe.

TRAUMATIC PSYCHOSIS

We may consider as part of this group those cases which are seen as (1) deliria connected with the trauma, with or without additional alcoholic or senile basis; (2) amnesic hysteroid states usually with limited retrograde and anterograde amnesia; (3) the posttraumatic constitution manifested by easy reaction to alcohol, grippe, etc., or more lasting vasomotor neurosis (headaches, congestions), or types with explosive diathesis (irascibility), types with hysterical or epileptoid episodes with or without convulsions, and types of paranoid development. Further, (4) the traumatic defect conditions, such as aphasia, asymbolias or secondary deterioration in connection with epilepsy, or (5) terminal deterioration due to progressive alterations of the primarily injured parts with or without arteriosclerosis.

SYMPTOMS

Posttraumatic Psychosis. E. C., a 51-year-old white male, entered the clinic December 6, 1934. The complaints of his family were, "He got hurt in an automobile accident October 18. The doctor said he had a fractured skull and concussion. Since then he has been confused. He has turned against me [wife]. Thinks that I am bothering him. He is afraid and irritable. He has threatened to kill us.

"There is a complete change in him since the accident. He is slowed up a lot. Hard to manage. He gets an idea in his head and you can't change it. He sleeps more than he used to. He has lost 30 pounds in weight since the accident. He seems a different man."

The onset of the mental difficulty dated back to October 18, when the patient was injured in an automobile accident. He remained unconscious 24 hours. Was taken to a hospital where he remained three days, following which he was removed to his own home. He remained in a semiconscious state about three weeks. On November 19 he seemed brighter, said he was hungry and wanted to eat. He seemed, however, different. He was less tidy about his personal appearance. He could not think rapidly. His gait was unsteady and he had lost weight. He assumed an elated attitude although he was very changeable, irritable and showed marked emotional swings. His talk was rambling and incoherent. By late November he could not be managed at all because of the marked irritability and stubbornness. He was complaining of severe headaches, was exceedingly restless and wanted to be on the go. He refused to eat, thought his family were trying to get him out of the way and threatened his wife with a gun. On one occasion, just prior to admission, while riding with a friend, he refused to allow the man to return to his home with the consequence that they drove a considerable distance into New Mexico. He had a complete amnesia for the accident in October.

The patient was a Syrian by birth, of normal development. He came to this country at the age of 15, had an eighth grade education in Syria and spoke seven languages prior to the accident. His vocation was trucking which he carried on with a good deal of success. He had been married 21 years, there were seven children, and the marital situation had been satisfactory.

He was by disposition a good mixer, sociable and optimistic. There have always been mood swings, and at times the patient is gruff and abrupt.

Upon admission the patient was confused and bewildered. His attitude was predominantly one of elation though he showed marked emotional instability and rapid mood shifts. He demanded his immediate release and threatened the hospital with lawsuits. He said he had never been in an accident, that it was just talk. Though his talk was relevant and for the most part coherent his productions were influenced by the sensorium defects. His chief preoccupations consisted of feelings of persecution. He believed his wife and children had turned against him and he had threatened to kill them for his fancied beliefs.

Hallucinations were denied. He was disoriented for time and person. There were minor defects in the past memory but recent memory was most sweepingly affected.

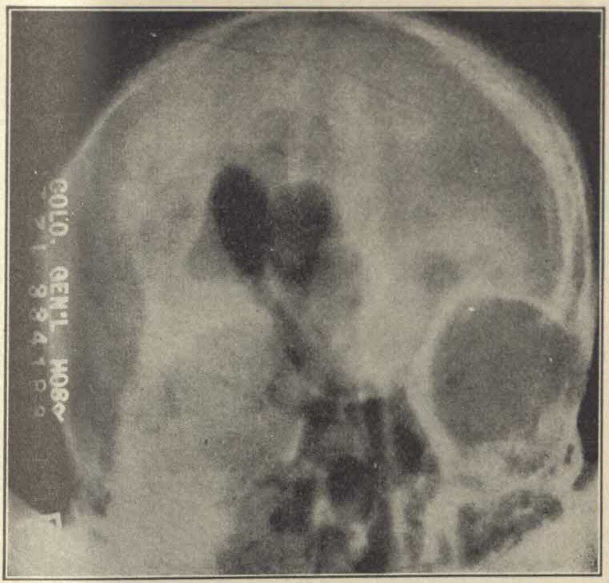


FIG. 14. Marked displacement of both lateral ventricles to right from pressure on the left. The left ventricle is displaced downward. There is an extensive arachnoiditis bilaterally.

He retained five digits forward, reversed three, but was unable to recall any of the test phrase after three minutes. His calculation and general information were poor. Judgment was lacking and the degree of insight is shown by his statement, "No sir, I know nothing's wrong. I know my mind is as good as anyone here or any lawyer." Physically the patient was a well-developed male of pyknic habitus. There was a stellate scar extending from the middle of the forehead to the hair line and about five inches long. A second scar was found above the left eye. There was an internal strabismus of the left eye and a cloudiness of the left lens and upper part of cornea. Both disks were white. The heart was boot-shaped, and the aortic second accentuated. Neurologically, all deep tendon reflexes were exaggerated, and there was some decreased motor power in all muscle groups.

The urine showed one plus albumin and one coarse granular cast. Blood studies were not remarkable. The blood Wassermann was negative while spinal fluid was under 300 mm. pressure, Quackenstadt 430 mm., and it showed a negative Wassermann, protein of 30, colloidal gold curve of 0001110000.

An encephalogram (Fig. 14) showed that "Both lateral ventricles were filled and rather large. There was almost complete obliteration of cortical pathways frontal area excepted, suggestive of changes due to old pachymeningitis. No evidence of cortical atrophy."

It was felt after neurologic consultation that an old hemorrhagic pachymeningitis was present and surgery was advised. A second stage operation followed in which a large pachymeningitis cyst—"extending from the foramen spinosum below to the base of the anterior fossa anteriorly, mesially to the superior longitudinal sinus"—was removed. The postoperative course was uneventful and two weeks later the patient was discharged to his son. Since that time he has returned to his trucking business with fair degree of success. He continues to be irritable and forgetful, but his persecutory delusions and physical complaints are much less prominent.

This is a fairly typical case of posttraumatic dementia as shown in the total change of general behavior and character with extreme reduction of mental capacity and ability. Frequently these cases may show aphasic and apraxic symptoms. Epileptiform attacks are seen as well as the development of cerebral arteriosclerosis syndromes. Negative x-ray findings are frequent in this condition. The pathology may be explained on a basis of definite injury to the brain substance with cerebral edema.

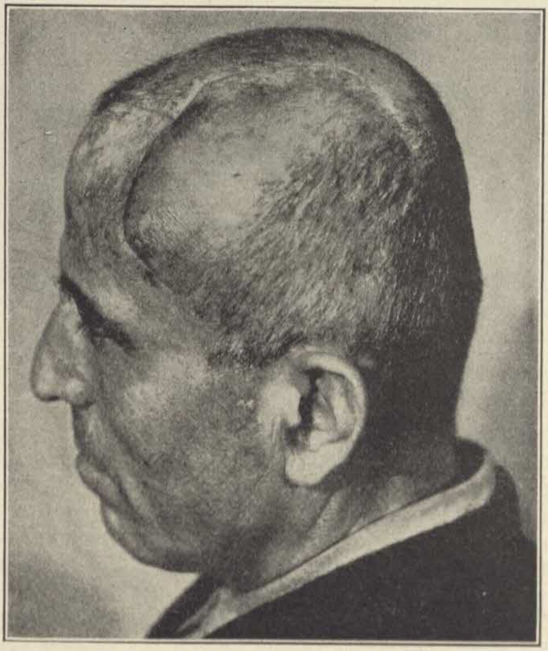


FIG. 15. Note scar and postoperative cortical bulging.

Traumatic Delirium. The patient, E. R., a 17-year-old white male, was transferred to the Psychopathic Hospital from the General Hospital where he had developed an active delirium.

Eleven days prior to his transfer the patient was injured in a motorcycle accident which rendered him semiconscious. After local treatment in a physician's office he was taken home, when, two days following the accident, he developed the first expression of confusion and delirium. Because of the difficult nursing problem he presented in the home he was brought to the General Hospital for treatment.

The developmental history is that of an essentially normal youth with no early neuropathic traits, a junior high school education, who has been actively engaged in farm work during the summer months. No outstanding illness characterizes the past history.

The family history reveals one maternal uncle, a mental defective. Upon admission to the general ward, prior to the transfer to the Psychopathic Hospital, the patient was "very uncoöperative, wildly delirious, requiring restraint to keep him in bed, very profane and crying continuously for water." The right eye was swollen and bruised. The pupils were small, irregular and reacted sluggishly to light. The optic veins were engorged. Dried blood filled the canals of the ears bilaterally. The teeth were covered with sordes and the tongue was coated and dry. The neck was somewhat rigid and provoked pain when moved passively. The spinal fluid was under extreme pressure and bloody.

Because of the diagnosis of skull fracture the fluid intake was reduced to 800 cc. in 24 hours, intravenous glucose 25 cc. of 25 per cent solution was given per rectum every eight hours. With daily lumbar punctures the spinal fluid became blood free on the eighth hospital day, but the patient continued to be excited and threatening, hence transferral to the Psychopathic Hospital. Upon arrival there he appeared drowsy, irritable, and refused to talk. He wandered confusedly about his room. He was untidy and indifferent to his surroundings. There were no apparent delusions or hallucinatory experiences. He was oriented to place and person but not to time. Gross recent memory defects were elicited and he had a complete amnesia for happenings prior to hospitalization. Past events of his life were readily recalled. Retention and recall were affected and he could not recall even four digits forward and no part of the test phrase was recalled after three minutes. Calculation was attempted with retardation and numerous errors. Reading seemed intact but the patient had no appreciation of his confusion.

Two weeks after admission the patient had become much more coöperative but spoke rather poorly and appeared to be confused at times. His amnesia continued. A week later he appeared to be essentially normal. He was pleasant and quiet and was gotten out of bed. Partial amnesia remained but he remembered things more clearly. He had insight into his experience, but still showed sluggish psychomotor activity. At the time of his discharge, 45 days after admission, the sensorium defects had cleared completely and all evidence of delirium had passed.

The patient returned to the clinic one month later for a follow-up interview and was said by the informant accompanying him to have resumed his preaccident level of performance.

Typical traumatic delirium is usually occupational in type. The period of amnesia following the accident is characteristic of these cases. Cerebral concussion and edema could well explain the mental condition. Traumatic sequelae are of interest, especially in children and are characterized by what is termed traumatic constitution. In these cases there is a marked change in the general character, extreme emotional instability and fatigability, headaches, and a hypersensitiveness to alcohol. Many cases develop paranoid delusions as well as epileptoid and hysteroid symptoms.

Psychoses are often precipitated by head injuries especially in general paresis, manic depressive, and paranoid reactions.

Children may react to trauma with bizarre aggressive behavior, clinically similar to the postencephalitic behavior disorders. The behavior is believed to be due to diffuse damage to the brain. These cases may be confused with reactive behavior problems, but the organic picture can be demonstrated in most cases.

TREATMENT

Treatment of the traumatic psychoses consists in:

Expectant Palliative Treatment. All measures to prevent shock. Absolute rest. Quiet. Spinal fluid drainage on admission often of value. Careful aseptic technique of all lacerations of the scalp.

Operative Treatment. Depends on neurologic findings. Marked intracranial pressure seen on careful ophthalmoscopic examination, and evidence of hemorrhage require immediate treatment. Charts of pulse, blood pressure and spinal fluid pressure showing a lowered pulse and respiratory rate, and an increase in blood pressure, with papilledema, indicate the need for an immediate decompression.

EPIDEMIC ENCEPHALITIS

The sequelae or manifestations of chronic encephalitis of lenticular type have been of great interest, and help to clear up many clinical pathologic facts concerning paralysis agitans. Many types of encephalitis have been reported.

In a study of 30 successive admissions of encephalitis we have been impressed by the fact that the previous personality make-up may indicate the type of mental disturbance present. Of this group eight were of the manic type individuals with a typical manic personality make-up. (Choreiform movements were very marked in some of these manic cases, especially at the onset of the disease.) There were six typical depressions, two of whom made suicidal attempts at the beginning of their illness. Of the remaining 16, nine showed the psychoneurotic personality. Some of this group were diagnosed as hysteria by private physicians. The remaining seven have progressively deteriorated and showed definite organic findings especially in the loss of mental ability and capabilities, due to marked memory and judgment defects.

Acute epidemic encephalitis may be said to compete with neurosyphilis in the variety of its clinical forms and sequelae. Depressions, hysterical syndromes of various descriptions and mental deficiencies have also been noted as sequelae of this disease.

Pathology (Neuropathology—N. W. Winkelman)

Grossly, aside from a moderate congestion, there are no abnormalities.

Microscopic examination of sections taken from all areas of the cortex, the basal ganglions, the midbrain, pons, medulla cerebellum, and spinal cord is as follows:

The pia-arachnoid is slightly infiltrated with round cells mainly of the lymphocytic and plasma cell variety, about equally represented and especially numerous around the vessels. The vessels themselves are distended with blood.

The cortex cerebri shows congested vessels but without evidences of endothelial proliferation or perivascular infiltration. An excess of glia cells may be seen in certain areas at times, but these findings are not constant.

The ganglion cells for the most part stain uniformly, with Nissl bodies—some cells are more severely involved—some even show advanced neuronophagia. In the deeper cortical layers satellitosis is a common finding.

The basal ganglia show the above parenchymatous changes to a marked degree, but there are also severe interstitial changes consisting of intense perivascular infiltration mainly of lymphocytes and plasma cells, confined at times to the Virchow-Robin spaces but at other times flowing over into the tissue substance. In places it can be made out, as in the region of the substantia nigra, that the tissue itself is invaded by these cellular elements.

The midbrain, pons, and medulla show the same changes as in the basal ganglion, being more severe in the midbrain than in the pons or medulla. No hemorrhages can be made out, nor are there areas of softening or polynuclear infiltration. The spinal cord itself, aside from congestion and slight changes in the anterior horn cells, is normal.

SYMPTOMS

Postencephalitis. V. W., a 15-year-old white girl, was admitted to the hospital November 25, 1929. Her family complained that she saw double, threw herself about in bed and was very profane.

On October 1, 1929, the patient vomited, fainted, became very drowsy and was put to bed. October 2, 1929, the left eyelid drooped and she saw double. The right arm became very weak and she encountered difficulty in swallowing. Though stuporous, she could be aroused and spoke intelligently when awake. The stupor deepened, however, with the rising of temperature to 104.5° and she slept for approximately three weeks, after which time she roused, but had a marked speech difficulty, threw herself about in bed and had convulsive jerkings of all extremities. She talked constantly but clearly.

On November 22, 1929, she began to speak disconnectedly, cursed, laughed, the twitchings were worse and she became increasingly excited. The family physician was called but the patient failed to respond to the usual sedative measures and was removed to the hospital. The patient was a full term baby, was normal in development. There were the usual childhood diseases but no susceptibility to upper respiratory infections. Neuropathic traits were denied. She had an eighth-grade education and for two years had been employed at a local business house. She was a popular, out-going, sociable girl who had always been considered well adjusted and of average intelligence. Family history failed to reveal an associated psychopathology.

Upon admission, she tossed to and fro in her bed. She struck out aimlessly and convulsively with all extremities. There was ptosis of the left eyelid and occasionally tics played over her face. She attempted to coöperate. There was difficulty in swallowing. Speech was coherent, relevant, clear and spontaneous. There was no alteration of psychomotor activity. She was very irritable at times and explosively vulgar. "Damn you! Why are you asking all of these questions? No, I didn't mean to say that. You like me, don't you and you know I didn't mean it." No special preoccupation or distortion of content were elicited. Lack of attention made it difficult in examination of sensorium but both recent and remote memory seemed intact. She was oriented for person but not time or place. Calculation, retention and recall could not be done because of lack of coöperation. General information was fair but judgment and insight were lacking. Physically, she presented the ptosis of the left lid. Her uvula deviated slightly to the left. There was some flattening on the right side of the face. The right muscular power was weaker. There was a positive Babinski bilaterally, while the Gordon, Oppenheim and Chaddock gave an extensor response. Urine and blood examinations threw no light on the case. Spinal fluid had five cells. Protein of 35, sugar 59. Negative of Wassermann and gold curve. There were no growths in the spinal fluid cultures after 72 hours. In the course of hospitalization of five weeks, the patient responded to warm, wet packs, and sodium salicylate. She became more alert, coöperative and was able to care for her personal needs. The swallowing difficulty persisted and was more marked in the handling of solid foods. Occupational therapy was a valuable adjunct to treatment, and was utilized in an effort to create interests that might be followed at home. Though markedly improved at discharge, she continued to be emotionally unstable. She returned to the out-patients' department for follow-up advice and treatment over a period of one year, during which time she made the front page of a local newspaper with the startling story of having been abducted and raped, investigation of which proved to be purely fictitious. She was again admitted to the hospital December 22, 1932 (three years after her first admission), when she became difficult to manage at her own home. It was felt by her family that she had undergone striking personality changes; whereas, prior to her illness she had been cheerful, pleasant, slender, she had now become irritable, moody, obese, stubborn and emotionally unstable. Complicating the personality change was the appearance of "shaky spells" which were uncontrollable and lasted from a few seconds to a few minutes. There was almost constant unmotivated crying and the patient would scratch herself continually. The mental age on second admission, according to Binet-Simon intelligence test, was 13 years and one month, in contrast to the chronologic age of 19 years and two months. Physically, there were no changes over the first admission save for the obesity. Because of the overt antisocial behavior demonstrated by the patient, it was thought best to commit her to the State Hospital where she went and remained for a period of nine months.

Four years after her discharge from the State Hospital, she was again admitted to our clinic where she began to experience convulsive seizures characterized by abnormal movements of the left side of her body and loss of consciousness for a few minutes. The seizures occurred frequently over a period of about five days, after which she was free from them for several weeks. They were somewhat controlled by luminal. There was no essential change in the mental status findings. She was returned to her family to continue the prescribed luminal therapy and followed by our out-patients' department. To date there has been no need for further institutionalization.

This case represents a postencephalitic behavior change which is exceedingly common in this type of disorder. The postencephalitic behavior disorders in children are of greatest importance in their relation to serious delinquency. Children previously well adjusted often show a total change in character and disposition after an attack of this disease. There is marked emotional liability and hyperkinesis, often uncontrollable, associated with sexual precocity. These children are unable to get along in school and indicate the need for special consideration, and study, and research. Such children do not react to discipline and commitment seems to us unjustifiable. At present these manifestations of epidemic encephalitis in children present an imperative and involved community problem.

Behavior Disorders Following Epidemic Encephalitis in Children

The physician should be on the alert for the behavior disorders secondary to epidemic encephalitis and severe head injury, which may result in a traumatic encephalitis. In children, both of these conditions, and particularly the former, may produce a definite change in behavior; extreme disobedience, open defiance of all authority, running away from home, lying, stealing, teasing and cruelty, sexual delinquencies, violence and criminality. In the majority of instances the intellect per se is intact, though there is easy fatigue of attention and motor restlessness. A long period of retraining and reeducation under standardized conditions is the chief therapeutic hope.

The treatment of behavior disorders after encephalitis is of importance in itself, and also offers hints to the management of a considerable amount of bad behavior in children, which is associated with other physical diseases.

The aim of treatment must be to prevent the bad results which unfortunately have been shown in thousands of cases. These results have a curious similarity, a common stamp, even though the children have been brought up in countries far removed from each other in customs. Boys stay up all night, play truant, fight, get into dangerous mischief, steal, and are headed straight for prison. Girls run away for excitement, are fearless in defying all authority and become sexual misdemeanants. Both show a demoniacal ability to disorganize schools, families and neighborhoods and fail to respond to appeals or punishment. Nevertheless the children may remain intelligent, affectionate and often very likable.

The time for a physician to start treatment is in earliest convalescence. As the child improves from the physical illness he should say to the parents. "You must make up your minds to train this child over again. The child will be irritable, restless and will seem to have willfully forgotten his good habits; you yourself will be tired and busy; but you must keep yourself from getting angry and stick to a long and well thought-out policy of re-education. You can't let your sympathy lead you to spoiling the child, but, on the other hand, you must realize that punishment makes things worse. Try to keep the child well rested, well nourished and well occupied; keep other children away. As the child gets stronger fill every minute of the day with interesting things—lessons, gymnasium work, games, manual training." The family is really striving for its own happiness as well as the welfare of the child.

Better than home endeavors, which are extremely hard on the other children of the family, is a small class of children of the same age under psychiatric supervision. Such a class is described in the *Atlantic Medical Journal* of March, 1927. It would be well for physicians to support any project to establish such classes in nearby mental hospitals.

In case the child is left feebleminded by encephalitis, which is not a common occurrence, commitment to a suitable institution should be advised, as no home treatment is of any use. (Bond.)

Treatment of epidemic encephalitis has been entirely unsatisfactory to date. At the time of the writing of this edition, aureomycin has proved effective in many of the virus infections due to the larger forms, such as virus pneumonia. As a result, the authors have been treating encephalitis with aureomycin. The drug is exhibited in large doses and over a long period of time and our results have been encouraging in the preliminary stage. Time must elapse before any definite statement can be made as to the value of this drug in treating encephalitis. Because the drug is relatively nontoxic and because of the serious nature of the illness and its sequelae when they do occur, it is felt that there is nothing to be lost by treating the patients with aureomycin until further research proves the effectiveness or uselessness of the preparation in the various forms of encephalitis.

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CHAPTER 4

TOXIC PSYCHOSIS

GENERAL CONSIDERATIONS

The toxic or delirious reactions are acute, psychotic episodes largely determined by various toxic states in the body and characterized by periods of confusion, fluctuating levels of awareness, and in the more severe cases episodes of hallucinatory experience. While toxic reactions make up only about 10 per cent of the admissions to psychiatric clinics and hospitals they are among the most common major mental disorders treated by the general practitioner. Every practitioner of medicine should be familiar with these toxic states which frequently accompany all types of severe infectious and metabolic diseases.

Etiology. Any toxic or poisonous substance which adversely effects the metabolism of the human body may produce a toxic reaction in the psychiatric sense. For convenience these toxic sources are usually divided into two types: *exogenous*, or toxic substances coming from without, and *endogenous*, or self-created toxic states.

Among the more common exogenous toxins are alcohol, various sedative drugs used in excess, industrial poisons, opium derivatives, mariahuana and so forth. In the endogenous group anything that interferes with the general metabolic efficiency of the body has a potentiality for producing toxic states. Modern research on vitamin therapy would indicate that toxic states are at least in part due to deficiencies in certain essential vitamins. There is also some evidence to show that a deficiency of certain proteins within the body has a tendency to produce delirium. It is generally believed that the toxic states all have reversible pathologic changes in the brain, these changes being primarily swelling and edema of the nerve cells as well as the supporting tissues. There is evidence too which suggests that the circulatory efficiency of the nervous system is an important factor in maintaining the normal liquid distribution between the tissues and the vascular system. The work of Ewalt and Ruskin showing electroencephalographic abnormalities with heart failure would tend to support such a view. Engle and Romano have found electroencephalographic abnormalities in patients suffering from minor degrees of confusion. In these series, clearing up of the circulatory deficiency in one, and of the delirious episodes in the other, has resulted in a restitution of a normal electric pattern in the cortex. The utilization of oxygen by the brain is also an important factor in preserving a clear sensorium. The deficiency states play a role in the poor use of oxygen in the tissues, and this is probably the fundamental defect in the toxic and delirious states. Work by the Air Forces on the impaired intellectual functioning in low oxygen concentrations and low oxygen tension would tend to support such a view.

Incidence. Toxic states occur in all races, in both sexes, and in all age groups. As previously stated about 10 per cent of the admissions to psychiatric clinics are toxic reactions. Their frequency in the general population is not known, as the toxic episode is often a transitory phenomena observed during a more serious illness, and in compiling the statistics the toxic reactions are often overlooked. It is the general impression of most workers in the field that toxic states are produced more easily in people in advanced years but there are actually few statistical studies to support such a belief.

Pathology. Most patients survive their toxic episodes, but in those coming to post mortem the findings are rather uniform irrespective of the etiologic agent. These findings are chiefly those of brain edema which is generalized in most instances. Microscopic examination reveals accumulation of fluids in the interstitial spaces and swelling of the neurons themselves. These changes are all of a reversible kind and it is usually assumed that the toxic symptoms roughly parallel the degree of brain edema in severity. The pathology throughout the rest of the body varies according to the length and severity and type of the toxic process.

Psychopathology and Symptomatology. The earliest and one of the outstanding symptoms in any toxic reaction is a fluctuating impairment of consciousness, the degree varying from mild confusion and disorientation to complete stupor. The patient may be acutely confused during part of the day and be relatively clear at a later time. These fluctuations may cause the student to doubt his own powers of observation, but actually they are often the first clue as to the true nature of the patient's mental symptoms. Closely allied with these changes are defects in memory. Patient will forget earlier instructions of the physician, he will forget the physician's explanations of the treatment routine and may at times accuse the physician of having neglected him, because he has forgotten visits on the same day. These changes in memory, which are principally disturbances of retention and grasp of current situations, fluctuate to a remarkable degree during the day. In spite of these variations careful examination will usually elicit some impairment in the level of awareness and some impairment in retention and recent memory functions at all times and in all cases suffering from toxic or delirious states. These early changes in the level of consciousness and in the memory function are the first and outstanding symptoms in a delirious state. As the condition progresses the more spectacular content disturbances appear. These are for the most part hallucinations. These hallucinations occur in all spheres of sensation but they are more commonly of an auditory type. Visual hallucinations and tactile hallucinations do occur with some frequency in the delirious states, particularly in those patients suffering from the various drug intoxications. These hallucinations, in most instances, have a frightening or anxiety or fear-producing character and are often bizarre and weird. In almost all instances the patient interprets them as being a threat or a warning of some impending danger.

Delusions occur in many of these toxic reactions and the delusions are usually of a fear-producing type or they have a persecutory or paranoid coloring. The delusions often include members of the patient's immediate family and in some cases the delusional system becomes fairly well organized and resembles that seen in some of the other psychotic states, particularly schizophrenia. In some patients one finds an unusual combination of somatic hallucinatory and somatic delusional experiences. These are the patients who feel some type of tactile hallucinations and upon this experience build the delusion of bugs, worms, and so forth crawling under the skin. Classic descriptions of such cases occur in cocaine poisoning but similar ideas are encountered in other types of toxic reactions. The hallucinatory and delusional experiences also fluctuate in severity. At times the patient is free of these experiences and will discuss the ones he has had in a good-natured manner. Later, during the same conversation or in other interviews, the patient will insist that these experiences are true. Some patients will admit that certain of their imaginations have been hallucinations but will pick out one or two ideas which they will insist are true experiences. These are most apt to be the paranoid projections but in some instances the most absurd ideas are accepted. In the majority of cases the content of the hallucinations and delusions fluctuates and changes considerably from time to time. If the toxic states become chronic, as they do in some of the alcoholic reactions, the delusions tend to become a little more fixed as to content.

Other types of experience disturbance frequently encountered in the toxic states are so-called illusions. These are closely allied to the above described hallucinations and delusions. In this instance, however, the patient actually has an environmental stimulus but he misinterprets or misunderstands it. Patients hearing nurses talking in the Nursing Station frequently interpret this as threats or plots to poison them. Patients sometimes misidentify the thermometer or enema tube as weapons with which the nurse or attendant intends to injure them. Noises around the hospital are often interpreted as gun shots fired at them. In almost all instances, when present, the content of the illusion is of a fear-producing or anxiety-producing type. The mood is one of apprehension and fear. This apprehension and fear is usually in response to the hallucinatory or delusional experiences. When the patient is clear the mood changes to one of coöperation and at times euphoria. Patients in a toxic state weep easily and will show irritability at the minor restrictions of the ward, but the mood is easily influenced by explanation and persuasion on the part of skilled nurses or physicians. Unfortunately, the mood is labile and while they may have their fears and apprehensions allayed it will be necessary to repeat this reassurance as the apprehension and fear returns with the hallucinatory experiences.

The stream of talk varies with the degree and severity of the delirium. Patients in a mild delirium will respond to questions coherently and spontaneous productions are clearly expressed but usually colored by their experiences. In the more severe reactions the speech becomes incoherent and in some instances consists of unintelligible muttering. Even in these cases rousing the patient and fixing his attention on simple concrete questions will usually result in coherent and often logical answers to simple questions. Long or involved questions usually confuse the patient and in the midst of a sentence he may wander off into irrelevant or incoherent speech.

The behavior also varies considerably, depending upon the degree and severity of the delirious reactions. Mildly delirious patients often react rather actively to their hallucinatory experiences. In some instances they attempt to run away from their imagined persecutors and may injure themselves by falling out of windows, or down stairs. Other patients may assault the nurses or attendants or fellow patients believing that they are being threatened. These outbursts are usually controlled by explanation and reassurance but it is also true that the behavior is apt to recur frequently, and they require almost constant attendant and nursing care. If the delirium becomes more severe the patient becomes stuporous and will lie in bed muttering to himself, thrashing around, or picking at the sheets. Patients with tactile hallucinations will often spend hours picking out the bugs, pulling wires out of their fingers, and so forth. The behavior may seem bizarre and irrelevant upon first glance but an understanding of the delusional content will usually make it seem more logical in terms of the patient's belief that he is covered with vermin or he has wires running out of his fingers. The fact that the patient is a potential danger to himself and to his environment should always be borne in mind in planning the nursing routine.

The physical findings in toxic reactions are of importance. Details of the physical examination will vary somewhat with the particular etiologic agents. In all instances, however, the patient looks ill. At times the vasomotor instability is evidenced in terms of flushing, excessive sweating, rapid but fluctuating pulse rate and a widely fluctuating respiratory rhythm. There is usually a tremor of the fingers, hands, and about the lips. Patients will frequently have a low-grade temperature or in some instances a high temperature, depending upon the etiologic agent, and the individual somatic resistance. During the lucid intervals the patients usually complain of headaches and feelings of general weakness and debility. Details of the physical findings will vary in severity depending upon the etiologic agent and, as might be expected, in the endogenous reaction the physical findings are more prominent and are often specific for the individual diseases. The blood pressure will likewise tend to fluctuate, being high during periods of apprehension and excitement, and dropping to normal or below during the periods of stupor. Persistent hypertension should make one suspicious that the cardiorenal system is beginning to decompensate and this dysfunction may be the cause of the toxic picture.

The laboratory findings are often decisive and reflect the particular type of disorder from which the patient is suffering. In most instances there is a moderate leukocytosis. All patients suffering from toxic reactions should have complete physical and laboratory investigations even in those cases where the type of toxic reaction is thought to be obvious. In some cases the primary toxic agent is thought to be some type of exogenous poison, such as drugs or alcohol, but detailed investigation will show the patient to be suffering from some serious metabolic disorder, and that a combination of the physiologic decompensation plus the exogenous toxin has produced the mental picture.

Prognosis. Prognosis in the acute toxic reactions varies directly with the prognosis for the etiologic agent. In the exogenous disorders removal of the toxin will, in the actue phases, remove all toxic symptoms. If the poisoning becomes chronic or prolonged, irreversible pathologic changes in the brain may occur, resulting in chronic residuals. The endogenous toxic reactions seldom persist long enough to produce permanent changes in the central nervous system. As the patient recovers from his endogenous illness the toxic symptoms rapidly subside.

Treatment. The first consideration in treatment is the prevention and all exogenous toxic reactions may be avoided. Temperance on the patient's part, development of industrial health services, and judicious use of drugs by physicians can and should prevent the development of all exogenous toxic psychoses. Many of the endogenous reactions may be prevented by due care and attention to the patient's general physical ailments. The authors firmly believe that many of the confusional states associated with cardiac decompensation, respiratory diseases, peritonitis and other severe infections can be mitigated by the free use of oxygen inhalation, proper attention to the regulation of food, fluid and protein intake, plus the judicious use of sedative medications. A quietly operating and efficient nursing service will undoubtedly prevent the development of frank hallucinations in some patients who are showing mild or early toxic episodes.

Treatment of the Delirium Proper. One of the first considerations in the treatment of any delirious reaction is discovery of the cause and elimination of it wherever possible. In the exogenous reactions this usually consists simply in the detection of the toxic agent and elimination of the patient's ingestion of the drug. In the endogenous reactions the elimination varies with the type of illness that the patient has and may be medical, surgical, or a combination thereof, depending upon the agent to which the patient is reacting. This will be discussed in more detail under the individual toxic reactions. In all toxic states certain general principles of treatment are applicable and should be used from the moment that the case is diagnosed as having a toxic delirium. General medical measures directed toward support of the cardiorespiratory functions are of paramount importance. These consist of insuring adequate fluid intake and adequate food and vitamins. Nasal feedings by means of stomach tube or intravenous administration of glucose solution, plasma, and so forth, are used as indicated. Respiratory embarrassment is best combatted by means of an oxygen tent or oxygen room, but lacking these facilities administration by nasal catheter or mask is helpful. Repeated explanation and reassurance is necessary in order to get delirious patients to tolerate and stay in the oxygen tent, or to retain the nasal catheter. The brain edema is combated in several ways. Simplest and most commonly used is the intravenous administration of hypertonic glucose solution, which produces temporary decreases in intracranial pressure and at the same time provides a certain amount of nourishment and tends to combat acidosis.

Administration of sucrose solution produces a more pronounced and prolonged decrease in intracranial pressure. Concentrated plasma diluted to one-half the usual proportion has also been recommended. Probably the decrease in brain volume lasts longer. Spinal drainage will help in some instances and if the spinal fluid pressure is found to be increased cautious removal of fluid will prove beneficial in some instances. It should be pointed out, however, that the fluid causing the patient's difficulty is not within the subarachnoid space but is within the tissues of the brain proper and cannot be drained off from a needle in the lumbar spine. It will be found that most patients show less confusion and fewer hallucinatory experiences in the morning and during the bright daylight. Toward evening, as the ward darkens and the shadows begin to fall, the delirious phenomena are more apt to become pronounced. Placing the patient in a room that may be kept brightly lighted will often help considerably. In many instances the presence of some member of the family is a constant source of reassurance and comfort to the patient. The selection of the person is important, because in some instances the patient has paranoid projections centered around some or all of the members of his family and then they are anxiety producing rather than relieving.

In all examinations the nursing procedure should be carefully explained to the patient as this will often prevent him from becoming apprehensive due to misinterpretation of what is intended, and such precautions are particularly needed to soften such indignities as enema administration, taking rectal temperature, blood specimens and so forth. The patient should not be left alone even for a few moments in corridors, outside of x-ray rooms, heart stations, and so forth. In these circumstances the confusion and passing traffic often become panic producing and at times lead to violent outbursts of combativeness in an attempt to escape.

Saline catharsis, colonic irrigations, and hydrotherapy all tend to aid in the elimination of the toxic substances. These are of particular value in the exogenous toxic states but may be used judiciously in those endogenous reactions where there are no contraindications from the disease itself. Sedation should be used sparingly if at all during the day, and should be reserved for the night when the patient becomes more disturbed, or when it is customary for him to rest. Sedatives should be given in large single doses, and the use of quick-acting hypnotics such as paraldehyde are preferable to the more slowly eliminated drugs such as the barbituric acid derivatives. Drugs of the opium alkaloid series should be avoided unless needed for alleviation of pain. Where it is possible these patients should be kept in a room to themselves as ward noises, the activity and conversations of other patients and their treatment tend to aggravate their hallucinatory experiences and give rise to many related phenomena.

It is desirable to have the windows in the room fixed so they cannot be raised sufficiently for the patient to get out. Many patients who are presumed to have committed suicide in general hospitals, by jumping from windows, have actually not committed suicide at all, but have been attempting to escape from their imagined persecutors. The presence of a special nurse or attendant whom the patient trusts or some trusted member of the family does much to avoid these complications. One of the best sedative and eliminative measures is the prolonged neutral tub. Patients are placed in tubs containing water at body temperature. The temperature of this water must be closely controlled and the use of special equipment which insures a stream of water of uniform temperature is preferable. Lacking these facilities, however, a fairly adequate continuous tub can be given in the ordinary bathtub if the attendant or nurse is skillful and attentive. Patients suffering from exogenous toxic states may receive prolonged treatment in such a contrived device. Whether or not such a device is applicable for the use of endogenous toxic states depends entirely upon the underlying physical condition and the patient's general physical adequacy at the moment under consideration. Signs of impending shock or increase in temperature are indications for termination of the continuous flow bath. In most instances, if the temperature is accurately regulated, the patient may take a continuous flow bath running from one to 12 hours without any evidence of physiologic embarrassment. Some type of apparatus should be available in the tub so that the patient may go to sleep without the danger of sliding into the water. Needless to say patients taking such baths should have an attendant in constant attendance and under no circumstances should patients be left in the bath alone even for a few moments. Further details in the management of the toxic state will be considered under the heading for the individual toxic reactions.

EXOGENOUS TOXIC REACTIONS

Alcoholism

Because of the popularity of social drinking the term alcoholism has never been exactly defined. A person may presumably be considered alcoholic when he becomes dependent upon the toxic effects of the drug to carry out his work or meet his social obligations, or when he is unable to indulge or forego the pleasure of alcohol, depending upon the propriety of the occasion. Without regard to the therapeutic use or uselessness of alcohol, and irrespective of the ethical or social niceties of its use, it is usually conceded that the nervous system is vulnerable to its effects in large amounts. Alcoholism of itself is responsible for approximately 10 per cent of all mental diseases and occurs as an added symptom in many of the major psychotic reactions, and as a symptom in some of the psychoneurotic states. Even in moderate doses alcohol lessens motor activity, diminishes physical strength, lowers the fatigue point, interferes with clarity of ideation, impairs capacity for judgment and mental work, and interferes with the sharpness of memory. Many individuals become quite unstable emotionally under the influence of alcohol. It acts as a direct poison to the cortical cells of the nervous system.

Incidence. The problem of alcohol is becoming of increasing sociologic medical importance. Dayton states, "The first year of the Eighteenth Amendment in 1920 saw a precipitous drop in mental disorders. From eighty-five per one hundred thousand population in 1919 the admission rate falls to 72 in 1920, a decrease of 15 per cent in a single year. The admission rates for 1920 was the lowest of the seventeen years of the study. Maximum employment and high wages prevailed in both 1919 and 1920. Following 1920 the admission rates rise irregularly. The rate of the preprohibition year of 1919 was not equaled for eleven years or until 1930." Most hospitals report an increased admission rate for alcoholic psychosis. For example, during a prohibition year, April 1, 1929 to March 31, 1930, Colorado Psychopathic Hospital admitted 56 cases of alcoholic psychosis. During the first year following the repeal of prohibition, April 1, 1933 to March 31, 1934, 80 such cases were admitted. During the second year following repeal of prohibition, April 1, 1934 to March 31, 1935, 158 such patients were admitted. Admission rates for all patients at the hospital for the three years in question were approximately the same. Pollock reports a similar trend in the alcoholic first admissions to the New York State Hospitals. In 1914, 464 patients were admitted for alcoholism. In the four years, 1920 through 1923, only 817 cases were admitted, while in the two years, 1936 to 1937, following the repeal of prohibition, 1703 cases were admitted. Alcoholism remains one of the greatest sociologic and economic problems confronting the medical profession today. While the problem is primarily a psychiatric one, the many socioeconomic factors must be handled by experts in other fields and it is only through a coöperative effort of all interested agencies that the problem will be finally solved.

Etiology. Many interesting and verbally facile explanations have been given for why people drink excessively. General statements that they drink as an escape, that they use alcohol as a crutch, that they use alcohol to protect themselves from the barbs of their environment, are interesting, probably true, and offer little fundamental understanding of the deep nature of the problem. It will be shown in the classification that alcoholism is sometimes one symptom of a severe pyschologic problem and in others alcoholism seems to be the principal or only symptom of psychopathology. Even in these latter cases, most psychiatrists believe that the drinking is a symptom of a personality problem that in this case has its manifestation in the alcoholism itself.

The public's attitude toward the alcoholic is not unlike the family's toward the "cute" child. In the initial stages alcoholics are considered to be amusing, humorous, etc. As they become more boisterous and become a source of annoyance and embarrassment the public begins to ignore them and reject them. The alcoholic, even as is the child, is hurt and confused by the public's rejection of him for activity that it has previously encouraged and condoned. There can be no doubt that widespread public acceptance of alcoholism, association of alcoholism with good fellowship, family reunions, fraternity reunions, etc., have much to do with the fact that the alcoholics consider themselves reasonable people and when the public begins to reject and misunderstand them they feel hurt and abused.

Classification. The following classification is a useful one and makes some attempt to divide the patient into rough etiologic groups.

1. Social Drinking. Under this heading may be included that wide and much discussed group ordinarily called "normal" or "social" drinkers. It may be presumed to include that group whose drinking varies from an annual Christmas eggnog to the daily before dinner cocktail, and perhaps may include an occasional vacation spree. To be included in this group the person must in no way be dependent upon the toxic effect of the alcohol. Many persons who consider themselves social drinkers probably border upon the situational group, but in all instances they must be able to indulge in or forego the pleasure of the alcohol depending upon the proprieties of the occasion.

2. Reactive Alcoholism. Within this group fall that heterogeneous assortment who drink in relation to or as an escape from some environmental situation. Persons drinking in relation to vocational, marital, economic and physical difficulties not related to deep-seated personality problems may be properly included here. It is believed that a more thorough understanding of the alcoholic patient will result in a gradual absorption of this group into other headings of the classification. (See Chapter on Chronic Alcoholism.)

3. Symptomatic Alcoholism. This is the phase of the problem in which the alcoholism exists as one manifestation of the behavior difficulties encountered by patients suffering from one of the major organic or functional psychoses. The alcoholism may temporarily color the general reaction but careful study reveals the true situation and suggests the proper treatment.

4. Alcoholism in a Psychoneurosis. In certain alcoholic patients a psychoneurosis seems to be the etiologic factor. Certain of these cases use alcohol for a relief of the tensions and anxieties accompanying the disorder and in others the alcoholism itself is the prominent manifestation of the neurotic mechanism. The analytic literature contains numerous examples of the latter group of patients.

5. Alcoholism Simplex or Essential Alcoholism. This is the large catch-all of the diagnostic classification of alcoholism. Into this category are placed those patients in whom we find no factors which can reasonably be labeled etiologic. The cases present a problem which is neither essential nor

simple and the terms are probably used to mask our ignorance as to the true psychopathology of this state. Many persons who drink excessively and who may be classified as "psychopathic personalities" are included in this category.

The Alcoholic Psychoses. Not all alcoholic individuals develop psychoses. On the other hand, all of the above groups contribute cases to the psychotic reaction, the picture varying with the previous psychobiologic experience of the individual. The nutritional and physical status are important factors and when considered with the general personality pattern of the individual explain the seemingly wide variation in tolerance to alcohol seen in any group of these patients. The alcoholic psychoses are commonly classified as:

A. Pathologic Intoxication.
B. Delirium Tremens.
C. Korsakoff's Psychosis.
D. Acute Hallucinosis.
E. Chronic Hallucinosis.
F. Acute Paranoid Type.
G. Chronic Paranoid Type.
H. Alcoholic Deterioration.

Each of the above headings will be discussed briefly and sample case histories of the more important types will be presented.

PATHOLOGIC INTOXICATION. An acute mental disturbance due to varying amounts of alcohol and manifesting over a short period of time, excitement or furor with confusion and hallucinosis followed by amnesia.

DELIRIUM TREMENS. This reaction usually begins acutely and is characterized by motor restlessness, distractibility, hallucinations particularly of sight, illusions, great apprehension, tremor and ataxia. In effect it is a severe delirium plus marked tremors. As the disease progresses, the motor and mental activity becomes greatly increased. The tremors of the tongue and fingers are severe. The patient is sleepless, has fever, rapid pulse, low blood pressure and loses weight. There is albumin in the urine. In favorable cases the delirium terminates abruptly in a few days. Delirium tremens is often badly treated and if resort to elimination and hydrotherapy were stressed, reliance on narcotic drugs abandoned and routine spinal drainage cautiously employed, the recovery rate would be much higher. Avitaminic therapy employing thiamin chloride and nicotinic acid is valuable.

KORSAKOFF'S PSYCHOSIS. This is a chronic, prolonged form of psychosis which is actually more organic than toxic as many cases show permanent changes in the central nervous system. It is usually characterized by a loss of memory, supplying of the gaps in memory by confabulation of material that is reasonably plausible but alters from moment to moment. Patients are reasonably well oriented as to person and are easy to orient as to time and place but they do not remain in contact with their environment. In the initial phases the patient may have hallucinatory and delusional experiences similar to those seen in delirium tremens but if the condition becomes chronic the hallucinatory episodes are likely to subside. The striking thing about the picture in the Korsakoff reaction is the marked confabulation and the severe loss of memory. Either peripheral or polyneuritis usually accompany this condition and is thought to be a necessary accompaniment for the diagnosis of the condition though strictly speaking Korsakoff's may occur without neuritis. Korsakoff's reaction is usually due to prolonged and excessive drinking. Polyneuritis produces muscular aches and pains and patients often incorporate these sensations into their delusional systems imagining them to be bugs, wires, and so forth. Research indicates that the polyneuritic changes are due to a deficiency in vitamin B_1 or thiamin chloride and it is at least probable that many of the central nervous system changes are on the same basis.

ACUTE HALLUCINOSIS. This form of alcoholic psychosis is characterized by hallucinations of hearing, marked apprehension and fear, and fairly well-organized delusions of persecution. In contrast to the other forms of alcoholic psychoses in acute hallucinosis the sensorium is relatively clear. The absence of confusion, disorientation, and retention defect is the principal differential from the other forms of delirious reaction.

CHRONIC HALLUCINOSIS. This is usually a prolongation of an acute hallucinosis. If a state becomes chronic the apprehension and fear in reaction to the hallucinations tend to subside. Some of the cases seem to be the first manifestation of a schizophrenic psychosis and some authors consider chronic hallucinosis to be actually the initial stages of a schizophrenic reaction precipitated by an alcoholic psychosis and not a form of an alcoholic psychosis per se. This form of reaction is also characterized by a clear sensorium similar to that seen in acute hallucinosis.

ACUTE PARANOID TYPE. These patients are suspicious, have systematized persecutory delusions and frequently misinterpret environmental events as having special applications to themselves. They are distinguished from the hallucinosis by the absence of hallucinatory experiences. The sensorium in these reactions are also clear.

CHRONIC PARANOID TYPE. This group includes those cases under Acute Paranoid Type who do not clear up within a few months time. Many of these cases become chronic custodial patients and future examinations usually reveal them to be suffering from a chronic schizophrenic disorder. Because of the absence of confusion and hallucinations, and because the primary symptomatology has to do with projection content, it is quite likely that these two forms do not properly belong to the toxic reactions, but are more accurately to be considered as evidences of deeply seated personality disorders in persons who are borderline psychotics all of the time, but who first begin to form delusions when there is the additional burden of supporting a toxic reaction.

Alcoholic Deterioration. This is the common end reaction of all chronic alcoholics who do not recover from their alcoholism or do not die of some accident or intercurrent episode. After years of drinking, either continuously or episodically, usually punctuated by several acute hallucinatory experiences or attacks of delirium tremens, the patient begins to develop a slow but definite change in personality. He becomes ill-humored, irascible, and begins to show deterioration in ethical sense, business judgment, and in his general moral code. A few individuals develop a rather mild euphoric good humor similar to that seen in some mental defectives and in some post-traumatic patients. They become unreliable, have a tendency to prevaricate and often are paranoid toward members of their own family. They usually show a deterioration in work ability and persons who have formerly held responsible positions become unemployable or have to take jobs of lesser responsibility. Memory and intelligence is usually somewhat deficient in these patients, intellectual changes being of the deteriorative type. Some of these patients become so advanced in their deterioration that they resemble true organic reactions of the nervous system and are frequently dubbed "alcoholic pseudoparesis."

Case Reports: 1. Social Drinking. No case will be presented in social drinking as the students undoubtedly have observed many such examples among their friends and acquaintances.

2. Reactive Alcoholism. The following case illustrates how an individual may use alcohol to aid him in adjusting to some factor in his total reaction to his environment. Patient confronted with a situation that he was unable to cope with uses alcohol as a tension-relieving device and uses it in an effort to bolster up his courage so that he can carry on in his occupation in spite of his obvious lack of fitness to do this particular type of work.

Patient is a 24-year-old white male, recently discharged from the Armed Forces. The history reveals that he had normal birth and development, coming from a good middle-class American family. He got along well in school and was enrolled in one of the state universities, at the onset of the present illness. The patient volunteered as an aviation cadet and was successful in completing his primary or basic training. Shortly after being commissioned as a pilot in the Air Forces the patient was involved in an air crash accident and received a severe head injury. The convalescence from his injury was uneventful except the patient began to have short periods of unconsciousness. Some of his fellow pilots told him that he would have convulsions. After a thorough medical survey and treatment the patient was finally given a medical discharge because of his unsuitability for flying in terms of potential convulsive phenomena. Upon return to civilian life the patient obtained employment as a co-pilot in a commercial airline. He worried a great deal fearing that he might have a convulsion while on duty and endanger his passengers as well as himself in his aircraft. As a result of these fears he worked under a great deal of tension and upon completing his mission would resort to one of the local taverns where he would drink heavily. After becoming intoxicated he would be able to sleep. After a few such episodes it soon became necessary for him to "have a short quick one" in the morning in order to be able to carry on the day's activity. Needless to say this type of behavior did not go well with his employers and he was dismissed from his flying position because of drinking.

It is interesting that the patient had not informed his employers of his convulsive phenomena and they did not become aware of the basis for his drinking. It is also pertinent that he did not have a seizure while flying in aircraft. Following his dismissal from this job, which was considered essential, it became necessary for him to reregister with his local Selective Service Board. He was classified 1-A and reinducted into the Service in spite of his telling the Draft Board that he had been given a medical discharge. He was finally inducted as a private, and as might be expected, felt himself considerably abused in having been discharged as a commissioned officer and then reinducted as an enlisted man. This patient continued to worry about his seizures and this resulted in further excessive alcoholism. He finally checked into the hospital because of his drinking and because of his seizures.

Clearing of his records through channels finally disclosed that he had been previously discharged and he was again released from the Services because of his disability. The patient felt that he was a failure, that he had been unable to do the work that he chose and continued to be seriously concerned about his convulsive phenomena. He felt that he had been well treated by the Armed Services and readily accepted that the convulsions were a residual of his injury. He had also been placed on anticonvulsive medication but it is interesting that the patient did not like to take this drug because it made him feel drowsy. He also feared that having been branded as a convulsive he would be unable to continue his career of flying. Treatment in this case consisted in more detailed explanation of the causes of his convulsions and persuasion that it was not fair to himself or to the flying public for him to continue in aviation. The patient was encouraged to return to a University to prepare himself for some other status such as one of the learned professions or some occupation that would not be interfered with by an occasional seizure or fainting attack. Patient received these suggestions in good faith and when last heard from was attempting to arrange a return to school. Whether or not that will solve this patient's particular problem remains to be seen.

3. SYMPTOMATIC ALCOHOLISM. The following is an example of a patient who had been temperate throughout most of his life. Having developed the symptoms of a frank general paresis the patient began to drink excessively and to show a combination of symptoms due to alcoholism and general paresis.

Patient is a 40-year-old white male, brought to the hospital from the jail by the police. He was transferred to the hospital at the request of his wife. Patient had been incarcerated in jail following his arrest for driving a motor car at excessive rates of speed while intoxicated. The car he was driving belonged to a local automobile distributor and the patient had taken it out for a demonstration. The wife stated that the patient had been a hard-working, temperate individual throughout their married life. During the past year he has become increasingly irritable and has taken to spending his evenings away from home. Prior to that time the patient had drunk socially and moderately. During the past six to nine months he had come home repeatedly in an advanced stage of intoxication and it has often been necessary for his wife to help him get to bed. The patient had also begun to neglect his work and he had shown some defect in judgment in his work. He had been discharged from one position for being irritable with the customers and for being irritable and impudent with his employer. When first interviewed the patient had been in jail for approximately 12 hours and was relatively sober but extremely tremulous and shaky. In spite of his miserable appearance he was in a euphoric mood and was laughing mightily over the fact that the police had had such a difficult time in apprehending him. He stated, "Doc, that car was zinging like a bullet."

Further questioning revealed the patient to be quite expansive. He felt he had earned a large sum of money as a commission on a deal and felt that he had a large income anticipated from future deals which he was sure he had "sewed up." In spite of the fact that his income had recently been low the patient had planned on buying the car he was driving and had also arranged to buy another one. He refused to take the problem of his drinking seriously, stating he only drank because it made him feel so good. Patient would become impatient with the examiner for being so slow in his questions and for being so deliberate in the examination procedures.

While the predominant mood was one of euphoria, at times the patient would become irritable and impatient when his expansive demands were not acceded to. Sensorium revealed many defects in recent memory and marked slurring of speech. in addition to the judgment defects mentioned above. Because of these findings and because of neurologic findings consisting of pupillary irregularity and hyperactive tendon reflexes a spinal puncture was done. Patient was found to be suffering from a general paresis. Appropriate treatment consisting of fever therapy combined with chemotherapy was undertaken. During his stay of five weeks in the hospital the patient's general condition improved. He began to gain weight and the expansive delusions had largely disappeared at the time of his discharge. He was continued in the Out-Patient for weekly antileutic treatment and remained under observation for a total of three and a half years. During this period there was no further alcoholism of any type. This patient returned to his former occupation and when last heard from was adjusting well.

4. ALCOHOLISM IN PSYCHONEUROSIS. Alcohol is a temporary anxiety-relieving drug. Many psychoneurotic patients use alcohol to muster up their courage, to relieve anxiety and tension, or as a crutch in their adjustment to environmental situations which prove too difficult for them without the bolstering effect of this drug. The following case is a typical example of a young man who had been unable to completely emancipate from his own parents. Throughout his life he had suffered from recurrent psychoneurotic symptoms and had discovered that he could obtain temporary relief through the excessive and habitual use of alcohol. As will be seen in following his case history, each time the environmental situation became difficult for the patient he would resort to alcoholism, become dependent upon his parents and finally come to the hospital for relief of his alcoholism and further help concerning his psychoneurotic symptoms.

Patient was a 35-year-old single, white, male professional man. He was first examined in October, 1934. At this time he complained of seeing fantastic forms and entered the hospital voluntarily stating that he was suffering from delirium tremens and wished to be treated. He was accompanied by his father who stated that "he has been worried because he is unable to make any money and because of this worry he has started drinking" and had, to quote the father, "taken a coward's way out." The father also expressed an opinion that he was suffering from delirium tremens. Patient had been a social drinker for the past 12 years and had found that when he became nervous and tense that alcohol relieved these symptoms. His first frank psychoneurotic symptoms began in 1927, at which time he suffered from hysterical seizures. These seizures came on following worry and concern over the responsibilities of the job which the patient had. Whenever he got into a difficult situation his extremities would become rigid, he would fall but never hurt himself and occasionally he would vomit. After many visits to several physicians these seizures finally subsided.

Following reassurance by these physicians and an improvement in his job relationship the symptoms disappeared and did not recur until September, 1933. At this time the patient lost his job and in response to his financial worries his symptoms of nervousness and "attacks" began. During this episode he had not only seizures but sensations of constriction over his chest, attacks of tachycardia and a firm belief that he was going to die of heart trouble. He noted that if he had a few drinks his tachycardia subsided and the pain was relieved and he felt reassured concerning his health. He continued to drink intermittently until about eight months before admission at which time his financial condition became acute and he began to drink very heavily. Two weeks prior to admission the patient had been seeing red squares in front of his eyes upon awakening, on one morning saw a bunch of flies in his room, which "came" for him. When he started to duck under the blanket he saw a large black and yellow lizard in the corner of his bed. He could not sleep. He continued to drink during that week and continued to see fantastic animal forms. A persistent one was a tiger with long ears like a rabbit which persisted in climbing up the post of his bed and in "hanging around" his desk in his room. He confided these experiences to his friend and to his father who arranged for a hospitalization.

Patient was born in Connecticut, the youngest of two children. Throughout childhood he showed many neuropathic traits such as "weakness," temper tantrums, fear of the dark, and a persistent fear that the house would burn down. He frequently expressed a fear of death, was very sensitive, and deeply attached to his mother. He was always overprotected in the home. Following his graduation from the University, at the age of 24, he obtained a good job in his profession. In spite of this he continued to live at home and to support his parents. He remained deeply attached to his mother and rather antagonistic toward his father. He had been engaged to a young lady for a number of years but failed to marry her allegedly because of his parents' financial dependence upon him. During this time he made a fairly adequate sexual adjustment with various promiscuous girl friends. Patient had a rather cynical philosophy toward life. He showed little intiative and usually was classified as a follower rather than a leader among his friends. His mother was a very unstable person, who markedly overprotected the patient. He has one older brother who is much more successful in the world than the patient and the patient is extremely jealous of him.

Upon admission the patient's physical examination was essentially normal except for tremor of the eyelids, hands and feet. He was rather dirty, his teeth were neglected, and the gums were badly infected. He had a large lacerated wound over the buttocks, sustained when he fell down with a bottle of whisky in his pocket. Coördinated movements were tremulous and therefore inexact. There was no marked muscle weakness, no atrophies or fibrillations. Laboratory examinations were within normal limits.

Mental status revealed the patient to be coöperative, tremulous, apprehensive, and fearful. In the first 24 hours in the hospital he had both auditory and visual hallucinations of a fearful sort. The hallucinations principally consisted of seeing various weird animals similar to those described above. He stated that he was somewhat depressed, that he frequently got down in the dumps over his love affair and over his financial worries. He was extremely dissatisfied with his economic, social and sexual adjustment. He had marked feelings of inadequacy and inferiority. He stated that he drank principally to get rid of these feelings and to get rid of his fears of ill health. At the time of admission the patient was somewhat confused but could be oriented by direct questioning. Within 36 hours of his admission the sensorium became entirely clear and remained so throughout his stay in the hospital. The neurotic nature of his illness was explained to the patient and he accepted these explanations readily. He also expressed an eagerness to attempt to find the deeper causal factors of his neurotic symptoms. He and the physician worked out a plan where the patient was to be dismissed from the hospital upon recovery from his toxic symptoms and for his return to the Out-Patient Department where he was to continue with psychotherapy.

Patient returned for two visits after his dismissal and was not heard from again until his second admission six years later, in 1940, at this time he gave the following interval history. He stated that he had not returned for his interviews because he had been unable to get work and had been in severe financial stress and had not wanted to confess this work inadequacy to the physician. About two months after discharge from the hospital the Christmas holidays came along and the patient started drinking again. His drinking was rather well controlled, however, and would consist of a night of social drinking once or twice per week. He had obtained a job at about this same time and his drinking did not interfere with his work. He continued to work irregularly through this entire period. In 1937, the patient finally married his above-mentioned fiancée, who was a widow. Following the marriage the patient's drinking began to increase and this caused some difficulty with both his wife and parents. A month after he was married his mother died and then he resorted to further heavy drinking, but continued to work well and was making more money than at any other time during his life.

Following the mother's death the patient's father moved out of the home and the patient and his wife began to live alone. This resulted in a great deal of in-law trouble and interference on the part of the wife's parents, and in frequent separations—the wife frequently spending two or three days of each week in her parents' home. Patient continued to drink still more heavily during this time. As a result of his drinking he lost his regular job and was forced to take temporary assignments and temporary commissions for support. Early in 1938 his wife finally divorced him. The patient states that he was terribly disillusioned but he was glad to get rid of her. He made many derogatory remarks about the unfairness of "foundations" and "uplifts" which succeeded in disguising the feminine form in such manner as to deceive the prospective husband. Patient continued to work at odd jobs until shortly before admission to the hospital. He was finally unable to obtain any kind of employment because of his drinking, and began to feel so badly and became so tremulous that he was afraid that he would have a recurrence of delirium tremens. His sensations of choking, precordial pain and tachycardia recurred and became so severe that he feared he would die. This plus his fear of impending delirium tremens prompted him to voluntarily apply for admission to the hospital.

Examination on this admission revealed essentially the same findings as were present on the previous examination, except that the patient was not hallucinating. The depressive symptoms and feelings of inadequacy previously encountered were again found. The patient again enthusiastically entered into psychotherapy while in the hospital and again began to obtain some insight concerning his immaturity, his overdependence upon his mother and his substitution of alcoholism for constructive effort when confronted with difficulties in his environment. In spite of this apparent progress in the hospital, following his discharge he again failed to return to continue therapy.

The patient was next seen in 1944. At this time he was brought to the hospital from a nearby general hospital where he had been taken following a suicidal attempt. Following his last admission patient had again obtained a good job which he had worked at and had done some excellent work in planning two public projects. He states however that his friends avoided him following his repeated visits to the

Psychopathic Hospital. He made no attempt to renew his acquaintanceship with his wife or with any of his previous friends. He spent most of his time off duty alone reading or in recent months in drinking. He was finally dismissed from the job in his profession and was forced to take an inferior position selling goods in a local department store. Patient states he rather liked this work but it did not pay much. He finally went on a prolonged drunk which lasted about two weeks and as he was sobering up from this he began to feel inferior, remorseful and rather depressed. In this setting he decided life wasn't worth living and finally attempted to take his life, cutting his wrists with a razor. After emergency treatment in a local general hospital he was transferred to us.

At this time the predominant symptoms were those of a reactive depression. He had been detoxified in the other hospital and had no evidence of confusion or hallucinatory experiences. After some discussion with the patient concerning his need for prolonged therapy he was finally persuaded to commit himself to a large state hospital for a prolonged hospitalization. It was planned that while in that institution arrangements would be made with one of the Staff of the hospital for detailed psychiatric treatment to attempt to find the cause and alleviate the patient's underlying psychoneurosis. The final prognosis in this case will depend entirely upon the patient's ability to work through the background and cause of his neurosis and to systematize a more satisfactory method of adjusting to life's situations as he finds them. Accomplishing this the need for the alcoholism will no longer be present. Failing in it he will probably continue in his pattern of seeking relief in excessive drinking.

5. Alcoholism Simplex or Essential Alcoholism. The following case history will be presented in some length as it is rather typical of the cases of alcoholsim found in this particular group. In the authors' experience the largest number of alcoholics belong in this group and at present our methods of managing them are entirely inadequate. Recently much attention has been given to attempting to solve these problems, but so far they remain a serious challenge to public health and general medical authorities as well as to psychiatrists. The following case will illustrate how an accomplished individual of superior intellectual capacity through continued excessive use of alcohol continued to slide down the social scale until he finally ended in penal servitude.

Patient was a 27-year-old white male. He was first seen in 1939. At this time he entered the hospital voluntarily after some persuasion by his parents. He had been recently divorced and had been in difficulty because of writing bad checks while intoxicated. These checks were always written on his father and the money was always used to buy more whisky. Patient states that he always gets into difficulty when he drinks too much, he fails to show up for work and loses his job, then being short of money he continues to drink and begins to write "hot" checks. He states that he holds his liquor pretty well and that people do not realize that he is drunk when they cash the checks for him. He states that he turned himself in to the police department in another city because he realized that he would have to stop his behavior. The patient's mother and father said that he had been traveling all over the United States during the past two months cashing bad checks and spending all of the money on getting drunk. They state he has lost every job he ever had because he gets drunk and doesn't show up for work.

Patient began drinking in 1929, but has been drinking heavily since 1933. He stated that at first he would drink each evening rather heavily but would be able to continue his work through the day without any alcohol. He worked as a radio announcer in several radio stations and was usually very successful in this job. Each job, however, was lost because the patient would get drunk and fail to show up for work. He married in 1936, but his marriage was a failure "because of his wife's poor housekeeping" and because they were both attempting to work on a different time schedule. Patient stated that he had gone East to attempt to get a new job but being unable to do so, became discouraged and started drinking. After drinking for a long time he began to feel poorly and had come West in an attempt to get a job on a ranch and build up his health. During a period of remorse while he was sobering up he decided to turn himself into the jail because of the hot checks he had written.

Parents state that the patient has always been a very popular person and has been quite talented in dramatics, music, art and public speaking. They state he has had many jobs paying quite high salaries for arranging programs and announcing. He had announced some nationally sponsored programs and made very good money for these jobs. His past history reveals that he was born following an instrument delivery, that he developed normally except for the fact that he refused to nurse at the breast. He had no serious illnesses or accidents in childhood. There was no bed-wetting or thumb sucking. He was quite precocious as a child, probably due to extensive tutoring by a grandfather. He was quite lazy in school and was usually a disciplinary problem but in spite of this he was intelligent and made high grades. He finished high school at the age of 16. Throughout his life he has been extremely antagonistic toward his father and has been overly dependent upon his mother. Patient blamed all of his difficulty upon his father. He also is resentful toward his mother whom he states raised him as a prodigy and pushed him ahead of the boys of his own age and consequently he was often the butt of their jokes and antagonisms. Patient had no feelings of inferiority or shyness. He had no concern over body symptoms and has always gotten along well with his classmates. He made a fairly good but promiscuous heterosexual adjustment. He has been married once. He and his wife had no children but were sexually compatible. Their separation was due to the patient's drinking. At the time of admission to the hospital the patient was entirely sober, was courteous, coöperative and neatly dressed. He stated that he felt somewhat depressed and ashamed of himself. The conversation was coherent and logical; there was no increased pressure. His mood was appropriate to his content of thought and facial expression. About the only time he appeared actually depressed was when he discussed alcoholism and the many jobs he had lost because of it. There was no projection content of any type. Sensorium was intact. Physical status not contributory. Laboratory examinations were all within normal limits.

In spite of his friendly and superficially coöperative attitude the patient refused to participate in psychotherapy. Attempted discussion revealed no pertinent material the patient spending the entire time discussing extraneous matters or in giving facetious or superficial remarks. It was then suggested that perhaps he could work better if he tried to do a personality status of himself as an entering wedge to psychotherapy. The patient readily agreed to do this and spent six weeks doing the first page. In all other ways he was quite coöperative in the hospital routine, entering into group activity, and soon became a social leader among the other patients in the ward. He continued to take a very superficial and semifacetious attitude toward his problem. At the time of dismissal he had actually gained very little in insight.

The patient was next seen in 1940. During the interval he had worked on a ranch for two weeks and then had gone back into radio work. He got along well and did not take a drink until four months prior to readmission. He states during this interval he felt better, did better work and had a better time than at any time during his life.

He had decided to remain sober for one year and did so. As soon as he had passed his anniversary of one year sobriety he began to drink slightly. He had also planned to marry a girl to whom he was engaged after he had been able to stay free of his alcohol for one year. After the wedding date was set the patient began to realize that he had picked the wrong girl. He planned to go through with his marriage but prior to it he got intoxicated and proceeded to "tell off" his prospective wife. Then he went on a vacation trip with his mother to the southern part of the United States. While on this trip he began to drink more whisky and after his return home his drinking began to interfere with his work. One month prior to admission the patient met a young lady while in a local tavern and after an acquaintanceship of two hours they were married. Following his return to the studio the patient took a short nap between station breaks and failed to wake up for the following one. He was dismissed for this but immediately obtained employment doing radio work for an advertising agency.

During this period his new wife continued to drink with him and they would frequently go on a spree together which might last from one to several days. During one of these periods the patient ran out of money and began to write bad checks again. In a few days he wrote 10 checks totaling nearly $200.00. Patient states he realized there would have to be an end of it, but each time he would think of what the awful results would be he would become so overwhelmed with the consequences that he would write another check and get drunk again. The father, becoming exasperated at his behavior, finally swore out a complaint, had the patient picked up and brought to the hospital. After his apprehension the patient agreed that the best thing for him to do was to enter the hospital. At this time his findings were essentially the same as on the previous admissions. After discussion of the problem with the patient and his family the patient was committed to a large state institution for prolonged care. The father continued to be a dogmatic, stubborn, and rigid individual, extremely quick-tempered and extremely intolerant of the patient's own opinion. The mother continued to be very overprotective but at times would become quite antagonistic toward the patient. Patient has extreme difficulty in accepting criticisms not believing that there is anything at all wrong with him. He realizes, however, that he cannot control his drinking adequately.

Patient left for the State hospital with the resolve to receive as much benefit as he could from that institution. He then planned to leave his parents following his discharge from the State hospital and attempt to establish a new life with his wife. Patient was last heard from in 1944, at which time he was in prison for offenses committed against military law. According to the note he was serving a rather prolonged sentence, but the exact nature of the charge was not stated. There are many features in this case which suggest a neurotic basis or at least a reactive basis for the patient's alcoholism. A rigid, rejecting, stern father, the overprotective hovering mother, the patient's precocious development, and the fact that he was expected to become a successful person undoubtedly all contributed something to the patient's illness. On the other hand, the patient's continual poor adjustment, his attitude of indifference toward his problem, the fact that he remains emotionally unconcerned about his difficulty, the fact that he is unable to profit by his previous experiences suggests the diagnosis of Constitutional Psychopathy. What prolonged psychotherapy could do for this patient if he were more coöperative toward receiving it is not known. It is to be hoped that sometime in the future more accurate evaluation of these patients and more satisfactory psychotherapy will be developed.

A considerable number of alcoholic patients encountered in clinical practice fall within the above group. It is undoubtedly true that in time to come a more satisfactory classification of alcoholism will be worked out. It is our feeling that many of the reactive alcoholics are actually alcoholisms in a psychoneurosis. It is our belief also that many so-called "essential alcoholics" are suffering from a severe neurosis whose principal symptom is the excessive drinking. In this group of patients the alcoholism seems to be a form of self punishment. According to our present classification and state of knowledge, however, this opinion is based on theory and not altogether supported by facts. Attempts at psychoanalysis for this group has not yielded the anticipated results. For these reasons it is probably important at the present time to distinguish the many frank psychoneurotic patients and the so-called essential or primary alcoholics. Any or all of the above types of reactions tend and do give rise to alcoholic psychosis if the alcoholism is continued long enough and in large enough quantity.

Case Summaries. The following case summaries are rather typical examples of the alcoholic psychosis. In an effort to conserve space the etiologic factors in the alcoholism in each instance will be omitted and only the psychotic symptomatology described, as the etiologic summary would be essentially repetition.

PATHOLOGIC INTOXICATION. The following case is an example of a person who during his alcoholism showed every manifestation of being a typical paranoid psychotic individual. Between attacks he is a rational, intelligent and accepted member of society.

The patient is a 24-year-old student, who does well in professional school. He is quiet, is supposedly a stable sort of an individual well liked by his classmates. The patient occasionally goes on a short spree during which time he drinks excessively. He will frequently drink a pint of whisky during one evening. During such a drinking bout his speech becomes thick, his motor reactions become slowed. His behavior undergoes a remarkable change. Instead of his ordinarily friendly amiable and rather quiet behavior the patient becomes truculent, belligerent and rather stupid looking. He is extremely suspicious and irritable but will fight anyone who won't have a drink with him, accuses his classmates of trying to steal his girl friend, berates the faculty and on occasion has threatened his fraternity brothers with a gun. On one occasion the patient became rather morose after a prolonged argument with some of his fraternity brothers and attempted to take his own life. The attempt was apparently genuine but clumsily carried out due to his intoxicated state. As a result the patient inflicted a superficial flesh wound over his chest with a pistol. Patient is somewhat concerned about this, fearing that he will hurt himself or someone else if he continues in this behavior. He states that during his alcoholic bouts he feels as if he would like to kill someone and is afraid that he might do so. The obvious advice to such a patient is that he should refrain from drinking. Many such patients do refrain from drinking and presumably continue to get along well without further difficulty with their environments.

DELIRIUM TREMENS. The case described above under Alcoholism in a Psychoneurosis is a typical example of delirium tremens. Some patients with delirium tremens will go to rather extensive lengths to escape from their imagined persecutors The following case is an example of this sort.

The patient was a 30-year-old Irishman, admitted to the Psychopathic Hospital following his attempt to escape from a local general hospital by jumping out of a second-story window. During his leap he sustained a fracture of one leg and wrenched the other one. Patient was presumed to have been attempting suicide but the patient's version of the story differs somewhat. It was as follows: About six weeks before admission the patient's wife died. He felt extremely depressed about her death and having "nothing better to do" went on a prolonged spree. On the date of his admission to the general hospital the patient had been walking across the viaduct on his way to a tavern to obtain another drink. Hearing a voice calling his name he looked about him but seeing no one and then looking in the air noticed his wife and her brother, who was also dead, peeking at him around the corner of the clouds. He states they called to him to jump off the viaduct so that he could join them and described to him the many pleasant experiences they were having in heaven. He states that he responded that he did not wish to die and began to hurry to get over the viaduct. He states they continued to call after him and continued to come by over him. As he got near the end of the viaduct a large truck was coming by and the voices urged him to attempt to dive under the truck. The patient states in an attempt to get away from them and somehow feeling he had to obey, he dived under the truck. He was skinned up slightly and as a result of this was taken to the Emergency Room of the general hospital. He was placed in a room for observation but x-ray revealed no serious injuries.

While undergoing further observation the patient states that several of his friends showed up in the nursing station and began to hold a wake for him. He states they were drinking and having a good time. He attempted to go into the nursing office to join them but the nurses refused to let him in and kept putting him back to bed. He states he heard one of his friends ask how they were going to pay for all of the liquor they were using at the wake and another friend responded that when the patient died they would use his insurance money to pay for the alcohol. The patient stated that his friends kept looking into the door of his room and that it made him rather restless the way they were looking at him. Every time he would attempt to join the wake the nurse or orderly would put him back to bed. Finally he saw one of his friends stick his head in the door and then go back with the group and say "that s.o.b. isn't going to die after all and we are going to be stuck for the liquor." One of his other friends suggested that they go in and kill him. He stated that the whole group started through the door of his room after him whereupon he dived out of the window to escape. This resulted in his fractured ankle and precipitated his admission to the hospital.

During his first 12 hours in the hospital he continued to have periodic attacks in which he would hallucinate thinking that the other patients, the nurses, or purely imaginary characters were attempting to kill him. He also had some tactile hallucinations feeling that bugs were crawling over his skin and at one time expressed the idea that there were strings running out of the ends of his fingers which he attempted to untangle and pull out. Following treatment with intravenous glucose, vitamin therapy, and spinal drainage these symptoms rapidly subsided and patient was clear. He still remained somewhat depressed concerning his wife's death but left the Psychopathic Hospital feeling much better and able to adjust to it. Following this understanding of his problem he was returned to the general hospital to await discharge for his fractured leg.

KORSAKOFF'S PSYCHOSIS. This is a more chronic psychiatric disturbance due to excessive alcoholism and is associated particularly (but not exclusively) with these states. Modern treatment has done much to alter the prognosis of these cases but in many of them in spite of modern treatment the illness remains chronic. The following case was selected because it was a relatively mild one and the response to intensive therapy was fairly satisfactory.

The patient is a 45-year-old white British female, who was admitted at the request of a friend because she was bedridden and because she was "losing her mind." According to a friend the patient has been drinking heavily for the last two years and prior to that time the friend believed the patient had also been drinking a good deal. The last two or three months the patient has eaten practically nothing but has continued to drink a pint and a half to a quart of gin per day. The reason for the drinking, according to the friend, was the patient's concern over her husband who is a British Merchant Seaman and has been running in and out of British ports with merchant vessels carrying food and ammunition to Britain. The patient had not seen her husband for two years and it was during this time that the drinking was excessive. She then stated that the patient had been bedridden for six weeks prior to admission.

According to the patient she was feeling fine and had come to the hospital to have the baby which she insisted she had given birth to earlier in the morning. The patient's only concern was the fact that her feet hurt her and she states that she has never had such sensations with her previous pregnancies. She also expressed some concern over the way her husband would take the fact she had had twins, because she stated "it has been some time" since she saw him. In fact, she expressed puzzlement as to how she could have possibly become pregnant because she felt certain she had not been unfaithful to her husband. The patient also admitted that she drank but states that she drank very moderately and only a little bit to keep her spirits up. She also stated that the gin gave her strength in order to go through with her pregnancy. The mental status examination revealed the patient to be coöperative and mildly euphoric. Her speech was usually coherent but often colored by the confabulation content. Patient would say that she had been to town the previous morning, she would describe the party she had been on the evening before and at other times she would go into great details concerning her pregnancy and her recent delivery. Throughout this phase of her hospitalization patient insisted she was on the Obstetrical Service and was a "confinement" case. At times the patient would become rather indignant when the nurses refused to bring the children to her. At other times she would state that the twins had been brought to her for her to nurse. In spite of the fact that she was unable to walk during any of the examinations the patient would insist that she had been out the evening before and the pain and inability to walk was a very recent complication. Patient felt that at times she probably had "milk legs" as a result of her delivery. Sensorium: Patient realized that she was in the hospital and she usually realized what city she was in. She would be completely confused as to time and as to recent and remote events her ability to recall them fluctuated a great deal. The gaps in her recent memory particularly were always filled in with plausible sounding stories but stories which in no manner fitted the facts at hand.

The physical examination revealed the patient to be emaciated. She had a mild secondary anemia and mild albuminuria. Spinal fluid and blood serology were entirely normal. Neurologic status revealed absence of the knee jerks and achilles reflexes. There was marked weakness in the lower extremities and the patient had a bilateral foot drop. There was a loss of sensation of all modalities over the feet and lower two-thirds of both legs. In spite of this hypoesthesia to pin prick and light touch the patient complained bitterly of spontaneous pain which she described as burning in both feet. There was reduced touch and pain sensitivity over the fingers, hands, forearms on both sides. There is some wasting of the muscles of the forearms and hands, and marked wasting of the muscles of the calves, the peroneal group and the muscles in the dorsum of the foot.

The patient was placed on treatment with high vitamin high caloric intake. In addition to the usual vitamins she was given 50 mg. thiamin chloride intramuscularly each day, one blood transfusion, and given liver extract as an additional or supplementary sort of crude vitamin B. With this regime the patient's mental condition cleared up except for some defects in retention over a period of approximately 90 days. The neuritic changes in her feet also improved so that the patient was finally able to get around with some assistance. She was discharged to the Out-Patient Clinic where she continued to receive physiotherapy, massage and exercise to her extremities. At the present writing she is still coming to the Clinic, remains sober, and while she has some weakness in flexion of both feet she has largely recovered from her neurologic defects. Sensorium at this time remains fairly adequate except for some defects in her memory.

The example cited is a mild type of Korsakoff's reaction and the patient has almost completely recovered. Many patients with this type of disorder remain chronically ill, the delusions and hallucinations persist and the sensorium changes show no improvement with treatment. In these patients chronic institutional care is sometimes necessary. In a few patients the mental symptoms clear up but the polyneuritis persists. Others must be referred to chronic custodial hospitals if the mental picture persists.

ACUTE HALLUCINOSIS. The following case is a rather typical example of a patient who drinks excessively and begins to have hallucinations in the olfactory sphere with marked paranoid delusional trends. Under proper treatment the delirium is cleared up in a short period of time. It will be noted from the date that this patient was examined, treated and recovered in the days prior to the knowledge of the role vitamins play in the production of the alcoholic reaction.

Patient, a 42-year-old female, admitted October, 1922, gave a history of excessive drinking for the past 10 years. In December, 1920, she had an attack of delirium tremens and was treated in a nearby hospital. The onset of her present trouble was in September, 1922, after almost constant drinking during the preceding month. She had complained at that time to her husband that the neighbors were talking about her and calling her vile names. They also had a plot against her to defame her character; to send her to prison; to destroy her reputation, and ultimately to slowly put her to death. She complained of dictaphones in the walls; said that she was watched continually; spied upon all the time both in her room and when she walked on the street. She claimed that she was being followed by detectives in order that the two women next door could accomplish "their purpose." She complained of foul gas coming through the cracks in her room in the middle of the night. At this time she purchased a revolver in order to defend herself. She misinterpreted noises outside by stating that a gang was coming in after her. She threatened to kill the two neighbors just before she was sent to the hospital for observation.

PHYSICAL EXAMINATION. The physical examination at the time of her admission to the hospital was negative. Her temperature was normal. Pulse was 112. Respiration was 24. Blood pressure 120/80. Neurologic examination was completely negative. Spinal fluid pressure was markedly increased.

MENTAL EXAMINATION: GENERAL BEHAVIOR. The patient was quiet on admission. She appeared interested in her surroundings and accepted her hospital admission as meaning that her persecutors had at last "won out" and she was doomed to "die a slow death." On close questioning she stated that she knew that her neighbors Mrs. R. and M. had planned to slowly torture her in various ways such as giving her some slow, powerful poison, or cutting her slowly to pieces with a knife.

STREAM OF TALK AND ACTIVITY. Her speech was along the lines of her special preoccupations which are described below under persecutory ideas. She was fairly quiet and coöperative on the wards. There were no special features worthy of comment.

MOOD AND SPECIAL PREOCCUPATIONS. A marked tension state with anxiety was apparent. Paranoid delusions were very prominent. They were centered around the neighbors, Mrs. R. and M. These neighbors had been "annoying" her, "tantalizing" her, and "abusing" her in various ways for the past two months. The object of this persecution was to ruin her character, to break up her home, to make her husband lose faith in her and ultimately to kill her. She stated that they were going to kill her by injecting a powerful drug into her, such as ether, strychnine, cocaine, or morphine. She said that they had tried to slowly dull her senses by pumping sewer gas through the cracks of her room and had hired detectives to follow her in the street. She thought they had attempted to get a photograph of her in order to spread vile stories about her all over the world. She denied both auditory and visual hallucinations, but her behavior, particularly at night, made clear that she was reacting to auditory hallucinations. She described warnings received from "below" telling her "to watch out"; warning her not to sleep, not even to close her eyes for a week or her persecutors would pounce on her and slowly chop her into pieces, etc. She told of seeing faces looking in through the windows of her room. The faces were those of the detectives hired to follow her to see that she did not get out of the hospital.

SENSORIUM AND INTELLECTUAL RESOURCES. Patient was fairly clear. She realized that she was in a hospital. She gave the approximate date and year correctly. She was able, likewise, to review the events of her life in due sequence. Five digits were retained. She had fair grasp of general information. Calculation was good. Her judgment and insight were poor.

COURSE IN THE HOSPITAL. The patient showed no change during her first week in the hospital. She continued to elaborate her persecutory ideas. During the second week she was more calm and showed interest in occupational therapy. Her persecutory ideas gradually disappeared under the influence of daily interviews and reeducation. She developed excellent insight and blamed this attack on alcoholic indulgence during the preceding month. At the end of three weeks she was discharged to her home after the Social Service made arrangements to see that she was adequately supervised in the community and that she would report to the Out-Patient Clinic at weekly intervals.

CHRONIC HALLUCINOSIS. Usually a prolongation of an acute hallucinosis. As the state becomes chronic the apprehension and fear, in reaction to the hallucinations, tends to subside. Some of the cases prove to be the first manifestation of a chronic schizophrenic disorder.

M. F., aged 34. Admitted July 12, 1923. Discharged August 28, 1923. Persecutory ideas of three months' duration. Delusions of marital infidelity. Suicidal intent. Extensive auditory hallucinations.

ONSET OF PRESENT ILLNESS. The patient gave a history of illness dating back three months when he began complaining that the "Blackhand" was after him.

He heard voices which disturbed him, particularly at night. He insisted that five of the "Blackhand" gang were in the room planning to kill him and he heard them saying, "We will get his brother too." He said gases were placed under his room to suffocate him so that he had "to give up." He threatened to kill these persecutors. During the week before admission his brother states that he was frightened, nervous, trembling and spent the evening before coming to the hospital with his finger in the keyhole of his door and his hand on the doorknob because he could hear the "Blackhand" after him. He was extremely brutal to his wife, frequently beating her without provocation. He had a fixed delusion of marital infidelity. He often watched his wife on the street and on several occasions locked her up in her room at night to keep her from going out. He felt that she was in league with the "Blackhand."

PERSONAL HISTORY. Personal history is of interest in that M. F. has been a chronic drinker. During the past six months he has been drinking steadily and regularly, having gone on a prolonged debauch around the 4th of July.

MENTAL EXAMINATION—GENERAL BEHAVIOR. On admission to the ward the patient was fairly calm, composed, and alert. He did not appear very apprehensive. Tremors were not severe.

STREAM OF TALK AND ACTIVITY. Speech was spontaneous, mostly concerned with his persecutory ideas. He stated that he felt better after arriving in the hospital but would take care of himself if the people on the outside attacked him at any time.

MOOD AND SPECIAL PREOCCUPATIONS. No typical affect disorder was present. He seemed concerned with his preoccupations. Persecutory ideas were prominent. He said that the "Blackhand" gang had organized against him and that they had threatened to take his life and to kill his brother; that his wife was unfaithful to him and had been in league with the "Blackhand" for the past four months. He was sure that they were trying to get into the ward after him. He misinterpreted a door banging in a nearby ward stating, "Here they come now." "I will kill them or they will kill me." He thought that "they" repeated everything he said, that he was watched continually day and night. "Since I was sent to the hospital they are outside trying the same antics on me." He described an odor of sewer gas and at times felt that his food was doped and frequently refused to eat it. He complained of hearing voices talking to him. People called him extremely vile names often accusing him of sexual perversion.

SENSORIUM AND INTELLECTUAL RESOURCES. The patient was approximately oriented for time, place, and person. He reviewed the events of his past life in fair sequence. No gross defects in memory for either remote or recent events. He retained five digits. General information was poor, in keeping with his education. Some slurring of speech was present with tremulous writing. He had poor judgment and insight.

PHYSICAL EXAMINATION. Physical examination was practically negative. All the systems were normal. He showed a slight facial tremor. All reflexes were present, equal, and overactive. Blood pressure was 160/90. Laboratory reports were all negative, including routine blood and spinal fluid Wassermann.

COURSE IN THE HOSPITAL. The patient adhered to his paranoid ideas for a period of one month. He refused to have anything to do with his wife on visiting days and he accused other visitors of being in league with his wife or the "Blackhand." On several occasions at night he got out of bed and tried to walk out of the window. After three weeks he was more talkative, gradually developing insight into his condition. He gave a vivid account of his alcoholic sprees during the past year. He coöperated well as to occupational therapy and helped about the ward. At the time of his discharge he had recovered and had excellent insight concerning his persecutory ideas.

ACUTE AND CHRONIC PARANOID TYPES. Individual cases of these two groups will not be presented because they are essentially the same as Acute and Chronic Hallucinosis, except for the fact that the predominant complaints are the paranoid delusions and there is an absence of hallucinatory experiences. These patients also have a clear sensorium and it is quite possible that many of them represent the earliest manifestations of a schizophrenic psychosis. It is questionable whether the mere fact that hallucinations are absent in the presence of frank paranoid elaborations is sufficient justification for creating separate diagnostic subdivisions.

ALCOHOLIC DETERIORATION. The student has undoubtedly seen many cases that could be classified in this group. The following example is a typical one of an individual who through the years has shown a progressive deterioration in social position and in intellectual capacity and emotional control. The majority of these changes can be due to alcoholism or to the effect of his failure to care for himself, during the periods he has been taking alcoholic beverages.

When first seen the patient was a 50-year-old white male. He was admitted in 1933. His friends brought him to the hospital complaining that he was drinking excessively, that he drank each day and that he was unable to carry on with his very responsible position because of his excessive drinking. The patient is disheveled, tremulous and dirty. His rather expensive clothing was disarranged, in need of cleaning and pressing and had a few small rips and tears. He was extremely irritable and during the first few days of admission uncoöperative. He insisted that he did not need to be in the hospital and that his admission was due to a frame-up of his political enemies. With detoxification patient became a little more cheerful, a little less tremulous and began to show a little more care and attention to his personal appearance. He remained irritable and he refused to consider his problem as a serious one. He expressed great fear that his political enemies would find him in the hospital and use his presence there against him. He minimized the importance of his drinking and pointed out that he had been a daily drinker since early adulthood, insisting that he needed the stimulus of alcohol in order to enable him to carry on his considerable responsibilities. The patient stated that he now realized he would have to quit drinking and that he intended to do without the alcohol from this day forward. He pointed out that this would be a great effort for him because he felt the need of it and that he could now feel that it was beginning to "get him." After approximately three weeks in the hospital the patient was discharged, in reasonably good physical condition.

He was next seen in 1935, at which time he was again admitted with the statement that he had been drinking daily since his discharge from the hospital in 1933. In the interval he had continued to do his work but his friends state that he was becoming less efficient and more irritable. Many of his former friends and henchmen were beginning to desert him because they felt the patient was losing his grip. A beginning loss of prestige and influence caused the patient to become more irritable and he also was becoming increasingly suspicious of his friends. The patient did not ascribe any of these changes to his own drinking but felt they were due to the waning of his political influence and the shifting tide of public opinion. Prolonged hospitalization was advised but the patient refused and he was discharged after approximately two weeks of hospitalization.

The patient was readmitted for the third time in 1939. In the interval he had lost his position and had become almost entirely dependent upon his friends for financial support. What money he had accumulated during his career had largely been spent for alcohol and for rather luxurious living quarters following the loss of his job. Patient continued to feel that he was influential and that he would be able to get even with many of his former "friends" who had deserted him during the days of his difficulty. He remained irritable, morose and at this time was beginning to show definite changes in retention and definite defects in judgment, both changes being of an organic type. Prolonged hospitalization was again advised and again refused by the patient. He was unmarried and his friends did not feel justified in filing a complaint against him. It was felt that this would probably be unsuccessful anyway due to the patient's former prominence and erstwhile political influence in his community. He was again discharged. When last heard from the patient had been seen and interviewed by an enterprising newspaper reporter. According to this individual's story the patient was living as a "bum" in a lowly part of the city and had been seen staggering down the street in a partially dressed, disheveled condition on a rather cold wet winter day.

This patient is a rather classic example of an individual who had gone from "riches to rags" on the alcoholic road. In him no etiologic factors were discovered due to the patient's complete indifference to the cause of his drinking and his complete unwillingness to consider the basic reasons for his alcoholism. This avoidance of treatment is probably on a psychologic basis and the entire pattern is one of chronic self-punishing tendencies.

Treatment. The treatment of the alcoholic patient remains one of the most difficult problems in modern psychiatry. The treatment may be divided conveniently into two phases: *detoxification* and *rehabilitation.*

DETOXIFICATION. In recent years much progress has been made toward a more efficient management of the detoxifying process in chronic alcoholism. The mortality rate from the various alcoholic psychoses has dropped to an insignificant figure in all forms except Korsakoff's syndrome and in this severe state the mortality rate has dropped well below 10 per cent. Most patients are more satisfactorily managed in an institution where they cannot avail themselves of further alcohol. Most clinics believe that the alcohol should be removed promptly and completely. The severe shakes or jitters that the patients have following withdrawal of the alcohol are very efficiently combated by three measures. The most efficient of these is the use of prolonged neutral tubs. In addition to this paraldehyde in doses of 8 to 15 cc. is of great benefit in helping withdrawal symptoms. Some patients are unable to tolerate paraldehyde and the drugs of the barbital series effectively cut down the "jitters." Unfortunately, patients have a tendency to become habituated to the barbiturates and little is accomplished if the patient is withdrawn from alcohol and placed on barbital as a substitute. Some individuals advocate the use of insulin prior to meals in an effort to stimulate the patient's appetite. We have found this to be very useful. It has been reported by some that the induction of insulin shock in the mild phase also helps the patient through the severe withdrawal stage. We have tried this, and although we find it to be an effective treatment, it seems rather drastic and this phase of the illness can better be handled by the extensive use of hydrotherapy and a judicious use of sedatives. Lacking hydrotherapeutic facilities more sedation is required and it is probable that in these patients the use of subshock or mild shock insulin doses may be warranted. In addition to the continuous tubs, elimination is further hastened by saline catharsis and colonic irrigation, in those patients with no physical or psychologic contraindication to the use of these measures. As previously mentioned avitaminosis is usually present. This is combated with large doses of the various synthetic and naturally occurring vitamin complex. Our usual procedure is to give the patient 20 to 50 mg. of thiamin chloride parenterally each day. In addition they are placed on B complex factors such as Brewer's yeast and a commercial preparation called "basic formula." In patients with Korsakoff's reaction some of the more expensive vitamin combinations prepared for parenteral administration are also used. In Korsakoff's reaction we have also continued to use liver extract as a source of crude vitamin B complex. Close attention is given to diet and if the patient fails to take a high caloric well-balanced diet, his oral intake is supplemented by specially prepared tube-feeding formula. Any systemic pathology present is corrected although we avoid elective surgery at this time. Most of the patients respond rapidly to these simple measures and toxic symptoms subside. The patients with Korsakoff's reaction, chronic hallucinosis, or a chronic paranoid reaction are more difficult to treat, but even in these cases many improve or recover with prolonged and persevering therapy according to the above plan.

Rehabilitation. In contrast to the improved efficiency of our methods of handling the patient during the phase of detoxification, we have made surprisingly little progress in the management of these patients during the period of rehabilitation. This is undoubtedly due to the fact that we still have an incomplete understanding of the deeper lying etiologic factors in many of these patients. Much effort and time has been spent in attempting to arrive at a more satisfactory method of handling these problems but at the date of this writing much is left to be done in this field. In the chapter on Chronic Alcoholism there is described a plan of psychologic re-education, for some years used by one of us with considerable success in the rehabilitation of coöperative patients. Most well-trained psychiatrists have had a few successes with attempts at personality analysis in the psychoneurotic group. Favorable results have been reported using so-called distributive analysis of Meyer and in the other less commonly used forms of analytic treatment. In managing patients of the so-called alcoholism simplex group, however, workers in all fields have reported rather discouraging or disappointing results. We also feel that many of these workers are unduly pessimistic about the results they obtain. Knight is an example of this situation. He worked with analytically oriented psychotherapy on a series of these alcoholics. At the conclusion of considerable experience with them he reported a good grade of improvement in only a small per cent. Considering the caliber of his patients and the difficulties of the problems involved the authors feel that this improvement in a carefully studied, carefully followed series is commendable and one that should encourage the author to further efforts rather than discourage him. Scattered reports from the literature reporting improvement in the 80 to 90 per cent bracket make the authors skeptical of the adequacy of the follow-up information or the propriety of the diagnosis of chronic alcoholism in the cases used. In recent years two additional forms of treatment in the rehabilitation of the alcoholics have achieved considerable prominence. First among these is the so-called conditioned reflex treatment proposed by Voegtlin and Le Mere. These authors have described their technique carefully in the literature but in summary it consists of inducing emesis with an injection of emetine hydrochloride which the patient thinks is an injection of a vitamin preparation or some other medication. When the patient begins to show the vasomotor evidences of nausea he is given a large dose of liquor in a setting of considerable ceremony and other items of positive suggestion. The resulting emesis is interpreted by the patient as having been induced by the whisky. This is repeated according to a well-set routine and in the course of time the patient begins to show signs of nausea when seeing or smelling the odor of alcoholic beverages. The authors report rather spectacular results with this treatment and point out that it is sometimes necessary to recondition the patient. Our experience with this form of treatment has been limited but in a few cases tried we have been unable to repeat the authors' statistical results. It is also true, however, that the patients on whom we have tried this treatment have been our most chronic and unpromising candidates for treatment and everything else had failed. The student is referred to the author's original article for the details of his technique and we see no reason why it should not be attempted in alcoholic patients who have proved refractory to the ordinary methods of psychotherapy.

At the time of this writing there is a great deal of interest in a new preparation known as *Antabuse*, which is chemically tetraethylthiuramdisulfide. This drug is rather toxic but patients taking it regularly apparently are sensitized to alcohol and the ingestion of alcohol produces violent vasomotor reactions, palpitations, and emesis. Patients are unable to handle any large quantity of alcohol while under the influence of this medication. The drug must be used under very carefully controlled clinical conditions. Patients are usually given ½ Gm. of the drug three times daily for two or three days, the drug is then reduced to ½ Gm. twice daily, and on the following day ½ Gm. daily. The usual patient can be maintained on ½ to ¾ Gm. per day. On the fifth and eighth days of administration of the drug the patient is given a test with some alcoholic beverage, preferably whisky, in order that the patient may understand the effects alcohol will have upon him. A syringe with an intravenous preparation of vitamin C should be immediately available because very violent reactions may occur and these can be almost immediately controlled by the use of intravenous vitamin C, 1,000 mgms. It is necessary for the patients to continue on their medication if they are to be kept off of alcohol, and the coöperation of the patient's family is necessary to see that they continue medication.

It is also necessary to give the family warning about patients placing the tablet under their tongues and expectorating it, and about patients going to the bathroom and inducing emesis in order to get rid of the preparation before it can be absorbed. In all instances the usual psychotherapeutic methods should be given in conjunction with the Antabuse. Antabuse should be looked upon as a deterrent to the occasional impulsive relapse so common in alcoholic patients. It is particularly useful to them when they meet some former drinking crony or attend some social function where well-meaning friends attempt to force a drink upon them. In our hands the patients who wish to relapse will usually manage to run out of the preparation or elude their family for a few days and then they can resume drinking as before. It should be pointed out that there have been fatalities reported from the use of Antabuse. Glud reports that Antabuse should not be used in patients with myocardial failure, coronary disease, cirrhosis of the liver, or any type of liver damage showing less than 85 per cent of normal function of the liver to the usual function test, the presence of any form of nephritis, convulsive disorders, thyroid disturbances, or drug addiction. It should also be pointed out that the use of paraldehyde is contraindicated, and the use of preparations put up in the form of elixirs is contraindicated in patients who are taking Antabuse, as they too produce a violent reaction. It is believed that the patient should have frequent checks of the hematopoietic system to protect against any possible suppression of the blood-forming organs. At the time of this writing the drug is still not commercially available but can be obtained from the manufacturers for carefully controlled clinical use. It is the authors' opinion that the drug has a usefulness in the total armamentarium of the treatment of alcoholism, but that its usefulness is in a limited area and its administration must be surrounded with much precaution.

Another very interesting attempt at the rehabilitation of the alcoholic is a lay person's organization known as Alcoholics Anonymous. There are numerous reports in the literature by various medical people who have worked with these lay groups. There is also one publication, a full-length book, written by the original organizer of this group. At present it is a nationwide organization with individuals in many communities who are more or less responsible for its management and operation. The founders of the group and the principal workers are all individuals who have been alcoholics themselves and who have brought their drinking under temporary or permanent control through the movements of this group. Any large heterogeneous group of this sort will vary in its efficiency from community to community and from place to place. In all fairness it should be pointed out that the general overall picture is one of a fairly efficient and conscientious attack upon one of the major sociologic features of the rehabilitation of the alcoholic patient.

The plan is about as follows: Only advanced chronic alcoholic patients are approached by the members of the group—patients who feel that they are no longer able to handle their problem because of the far advanced stage of physical, psychologic and moral degradation which they have reached as a result of their habits. Approach to them is sometimes made through the local authorities when the patient is jailed, sometimes through hospital authorities when they are hospitalized for detoxification. In other instances the patients are picked out of the gutter and arrangements made for their detoxification in the hospital. Members of the group then visit the patient and try to indoctrinate him with the basic tenets of the group. These are, briefly, that an individual of his type is unable to manage the details of his own life and that some appeal must be had to the higher group in managing his day to day activities. The higher group consists first of the association with the group of recovered alcoholics and second an appeal to the Deity for daily guidance and care. This particular approach using a combination of association with former alcoholics and the dependence upon a higher authority of the moralistic type supplies two needs of the ordinary chronic alcoholic patient. In the first place it provides socialization with individuals who understand his problem and who will not be urging him to take a drink for old time's sake and so forth. It also gives him a certain interest and mission or goal in life which is to help other individuals who are in the same circumstances as himself or rather in the same circumstances in which he has formerly found himself. This is undoubtedly a very constructive influence and a constructive form of motivation for the alcoholic patient. The appeal to a higher authority of a religious nature is, of course, effective and helpful particularly in those alcoholics who have a strong urge for dependency and who have never been able to satisfactorily find a socially acceptable person upon whom they could continue to be emotionally dependent during their adult life. It is, in effect, assuming a parent-child relationship with the Deity in the role of the parent and the patient in terms of the child. It is interesting, of course, that the Deity according to our present conception is an all-forgiving, ever-loving individual who is strict in his rules but extremely tolerant and forgiving for the repentance of the child who asks for forgiveness for transgression from the rule.

The authors have seen many patients who have been members of this group who have relapsed. It is also true, however, that putting them back with the group has in most instances resulted in another prolonged period of sobriety. The student and practitioner is cautioned against rejecting the whole movement because he happened to have for a patient a bad alcoholic who has been a former leader of one of the chapters of this group. One of us has had the experience of treating two different past leaders of this group but in following these persons after discharge from the hospital and realigning them with the group we find that they have again had a prolonged period in which they have been free of alcoholism. The authors freely admit that in some of these patients contact with the Alcoholics Anonymous group has produced better results than our more orthodox management. There is nothing in the group's activities that in any way conflicts with attempts to manage these patients from an orthodox medical and psychiatric point of view. Patients may adhere to the tenets of the group but still undergo prolonged psychotherapy in an attempt to get a better understanding of their maladjustment. Our feeling is that the movement should be encouraged and should be carried on with the coöperation and in some instances the guidance of the members of the medical profession.

MORPHINE ADDICTION OR MORPHINISM

Under this heading will be discussed the various types of addiction to opium or any of its derivatives. The medical and sociologic importance of this particular toxic reaction has been discussed at length and well by both Treadway and Parran of the United States Public Health Service.

Any of the general statements made under Alcoholism might well apply here. There is no doubt that the majority of these patients use morphine or one of the other opium alkaloids to aid them to adjust to some difficult life situation. In many patients the situation is a pain-producing one due to somatic disease of either a traumatic, infectious, or psychologic origin. Many others, however, use the preparations to overcome a general feeling of inadequacy and inferiority. They are definitely taken as the alcoholic takes alcohol for the euphoria and state of emotional tranquillity produced by the extensive use of the opium alkaloids. The morphinism thus is a symptom and not a disease entity in itself. The etiology is to be found in the individual's own personality pattern and in the difficulty he has in adjusting to the world about him. In an effort to make a classification upon these etiologic factors Kolb and Parran have proposed to follow a grouping of these patients.

Classification:

1. NORMAL INDIVIDUAL ACCIDENTALLY ADDICTED, MEDICAL ADDITION. (3.8)
2. PSYCHOPATHIC DIATHESIS—UNSTABLE PERSONS—POTENTIAL PSYCHOTICS—BEHAVIOR PROBLEMS.
3. PSYCHONEUROSES. (6.3)
4. C. P. I. (11.7)
5. INEBRIATE (21.9)
   ALCOHOLISM ALTERNATING WITH OR ACCOMPANYING.
6. PSYCHOTICS.

This etiologic classification or summary gives some understanding of the underlying problem in these cases. It is interesting to note that in each example the morphine is used either to bolster up deficiencies in the patient's own constitutional and acquired capacities to adjust to the world; in other words, to substitute for his own shortcomings, or it is used in situations where the environmental and physiologic demands are beyond the patient's capacity to tolerate and they are used as a protection or a shield. Deeper psychologic studies as to the particular types of patients using these drugs are indicated.

Symptoms. It is interesting that patients taking morphine rarely become psychotic in the ordinarily accepted psychiatric sense. Toxic reactions due to alcohol or due to other sedative drugs are common but acute toxic reactions due to morphine are almost unknown. Some of the patients become chronically deteriorated, irritable, and decline in the moral and economic scale but the presence of true hallucinations and delusions under the influence of the opium alkaloids are rare indeed. Closely allied with these experiences, however, are the opium dreams, which are pseudohallucinations, that patients induce by opium smoking. In this country, the drugs are rarely taken for this purpose and are usually used to induce a state of comfort, euphoria and well being, far short of the so-called opium dreams or "pipe dreams" common in other sections of the world. Some of the patients show a progressive deterioration in habits and moral sense and a progressive increase in the quantity of drugs taken as the years pass. The following case is an excellent example of this particular type of reaction.

Patient was a 31-year-old white woman, admitted to the hospital in May, 1928. She was brought to the hospital by family friends who stated she was taking excessive amounts of morphine and alcohol. Patient had been emotionally unstable since early childhood. She was the only daughter of a wealthy family and had been spoiled and indulged throughout her life. As an adolescent she had been pampered, had been given excessive quantities of money to spend and allowed what she wished in the way of clothes, recreation, and so forth. At the age of 20 she married but she and her husband did not get along well as they were both spoiled and overindulged children. Patient's father supported them throughout their marriage. The patient became pregnant twice and both children died at birth. During this period she began to take drugs and because of this her husband divorced her. Patient began to run around with a rather fast-moving social set and she was the object of much gossip and scandalous talk in her home town. At one time she was reported simultaneously engaged to four different men. During this period the patient drank excessively and took morphine on occasion. Whenever she was unable to get morphine she would begin to complain of violent abdominal pains and if she was unable to get the drug from illicit sources these complaints of terrific pain would usually bring forth a prescription for the drug from the legitimate medical profession.

On one occasion, six years prior to admission, the patient had such violent abdominal pains that she was thought to have a surgical abdomen and was operated upon. Following this she complained more bitterly of abdominal pain and another operation was performed. During one of these attacks of abdominal pain she was thought to be suffering from some type of kidney disease and one kidney was removed. In another the pelvis was eviscerated of all sex organs. Patient had been in hospitals for the treatment of morphinism prior to admission to our hospital. Each time she would state that she no longer had any desire for the drug but shortly after discharge would again begin to take it. Just prior to admission to our service the patient had married. Her husband had not known of her morphinism and on their honeymoon she demanded that he get it for her. When he refused she became very angry, left him, and returned home. She was apprehended by her family and brought to a private institution. In this institution one of the physicians thought she was suffering from intestinal obstruction because of her violent complaints of abdominal pains. The family, knowing the previous history of these abdominal operations, insisted that the pains were due to the patient's desire for morphine and she was accordingly transferred to the Psychopathic Hospital.

At the time of admission she stated she had been taking 4 to 5 grains of morphine a day depending upon how much she could get. Physical examination revealed two abdominal scars. She was well nourished, well developed, had several bruises and abrasions about her body which she stated were due to the rough handling administered in the hospital she had been in prior to entry to this institution. She stated that she had been considerably worried over her loss of children and over her divorce from her first husband. She stated that she was a devout Catholic and that this divorce had caused her considerable conflict. She pointed out, however, that in spite of this conflict she had remarried just prior to admission to the hospital. Laboratory studies revealed nothing of significance. Mental status examination revealed the patient as antagonistic, quarrelsome, uncoöperative and unwilling to take treatment of any kind. At times she would cry and behave like a spoiled child, scolding and screaming. At other times she would become very superior, condescending, and refused to have anything to do with Junior Physicians or with the nurses in the hospitals. The entire content had to do with complaints about the tremendous pain she was suffering and criticism of the institution's management of her particular case. She complained bitterly of headache, and abdominal pains. She demanded to see her parents and demanded her attorney, and when neither the attorney nor parents would agree to remove her from the institution she would fly into violent rages, berating them all. There was no evidence of hallucinatory or delusional material. The sensorium was clear throughout her stay in the hospital. Her judgment was considered to be impaired because she failed to realize the seriousness of her problem and failed to coöperate in any attempt to try and work out a more satisfactory method of adjustment.

Treatment consisted of withdrawing the drug rapidly, placing her on an elimination regime of catharsis and colonic irrigation. The withdrawal symptoms were combated with hydrotherapy consisting of prolonged continuous tubs and sedative packs. Daily interviews were held with the patient in an attempt to establish a better understanding of her problem. Little was accomplished in psychotherapy during the first two weeks, but following this the patient became much more coöperative. Interviews with her family and with her recently acquired husband were arranged and both the patient and her husband seemed to have some understanding of her problem. After three months of hospitalization the patient was dismissed. Shortly after returning to the community the patient left her new husband and it was reported that she was behaving in the same unstable manner as before. Husband stated that she was again taking morphine but we had no factual proof of this. Patient was next seen in 1937. At this time she was admitted to the hospital as an emergency, her family stated that she had been found unconscious in her hotel room, and there was a story that she had been on a prolonged drinking bout and was reported to have been taking drugs during this period. At the time of her arrival at the Admission Office of the hospital the patient was dead. Post mortem examination revealed abrasions about the body of a very trivial type and rather extensive brain edema. It was felt that the patient had died from an overdose of morphine, probably self administered. Whether or not it was taken with suicidal intent was not known. No notes or other evidences of suicide were left and it is possible that the patient misjudged her tolerance to the drug.

The above case is rather typical of the progressive deterioration and moral degradation of the narcotic addict. While they do not all come to a tragic end many of them wind up in penal servitude because of crimes committed in an effort to obtain morphine or because they are caught in illegal possession of morphine and are convicted under the Harrison Act. On the other hand, occasionally one sees a person who has taken morphine in rather constant doses throughout a number of years and continued to hold responsible positions and carry on as good citizens as long as they can obtain small doses of the drug. The following case is an example of this type.

The patient when first seen was 63 years of age. She first began to take morphine at the age of 18. At this time she was traveling with a small show playing a supporting role as an actress. She stated that she could do her part much better if given morphine and she learned to take it from one of the other actors. Patient also justified her use of the drug by stating that she suffered from chronic asthma which was relieved only by morphine. Throughout her life the patient had shown no psychopathologic traits other than her addiction to the morphine. She had been married to a young man at about the age of 20 and continued to live with him until the time of his death a few years prior to her admission to the hospital. As previously stated, during her younger years she supported herself in the theatrical field, and as advancing age interfered with her obtaining engagements her husband took up other work, and the patient worked only as a housewife. She had no children. During her entire life the patient had not been in difficulty with the law. She had been to the hospital on two or three other occasions, each time her admission precipitated by the fact that her supply of morphine had been interfered with and she began to suffer withdrawal symptoms. These withdrawal symptoms always took the form of attacks of respiratory embarrassment which the patient called "asthma." The ones observed seemed to be largely functional in origin. Throughout her addiction she took four or five ¼ gr. tablets of morphine each day. She stated that she had no desire to take more than this and the fifth dose in any day was never repeated on consecutive days and was always taken to meet severe social or physical stress. Patient's admission was precipitated by the fact that her supply of morphine had been temporarily interfered with by the efforts of a local narcotic agent. As on her previous admission, the patient stated, after about two weeks in the hospital, that she had recovered from her desire to take morphine. It was believed probable that she had received word that her supply was again available to her.

Treatment. The medical profession has had very poor results in the treatment of persons addicted to morphine, and most workers give pessimistic prognosis for permanent relief of the condition. Realizing the enormity of the problem, the United States Public Health Service has created a special hospital in Lexington, Kentucky, devoted to the treatment and study of the problem of morphine addiction. They have reported many facts concerning the habits and personality of the morphine addict but in spite of this the therapeutic results of treatment in this institution are unsatisfactory. The latest statistics available from the Lexington Hospital show that a large percentage of these patients relapse on follow-up after dismissal from the hospital. Undoubtedly, an important step in the successful treatment of morphine addiction will be controlling the production of the drug so that only the amounts necessary for the medical profession will be available at any place in the world market. Even this utopian device would have its weakness because a respectable percentage of addicts have been brought to their first acquaintance with the drug through the injudicious use of it by the medical profession. It is also true that a few unscrupulous physicians are apprehended each year selling morphine to chronic addicts under one pretext or another. While the Narcotic Bureau is extremely alert in tracking down and punishing these physicians, in the majority of instances, after serving a short sentence these persons are again preying upon the unsuspecting public by selling prescriptions for morphine.

The preventive problem remains a legal and sociomoral one which deserves tremendous support from the medical profession. There are people who believe it was an error to pass the Harrison Act which makes the excessive use of morphine a criminal procedure. This again is a question of morals and ethics and sociologic problems beyond the scope of this particular discussion. However, if our present concepts are true, that is, concepts that the excessive use of morphine brings about a progressive lowering of ethical and moral standards, and a decreased intellectual and physical efficiency, there can be no logical support for any measure to make easier the excessive use of this drug. The problem of treating the patient who presents himself to the hospital with the desire for treatment of his addiction consists of several steps.

The first logical step is withdrawal of the drug. Because morphine builds up a physiologic dependence in the individual taking it over long periods of time this particular phase of the treatment demands skillful treatment. Withdrawal is usually by one of three methods, either abrupt, rapid, or gradual.

ABRUPT WITHDRAWAL. This is suitable only for the mildly addicted healthy person. In the authors' service these particular cases make up approximately 80 per cent of the admission—patients who are taking only one to three gr. of morphine a day, usually filled under the direction of an ethical physician, and who usually started taking it following an operation or some painful injury. In these patients the drug may be abruptly withdrawn. Observation for severe withdrawal symptoms is necessary, however, even in these patients.

RAPID WITHDRAWAL. Considering all cases in general this is the best method of withdrawal of morphine. It is the recommended method for all chronic or severe addicts and is the method ordinarily preferred by the Public Health Service Institution treating morphinism exclusively. By rapid withdrawal is meant taking away the drug in a period of seven to 14 days. The first step is to stabilize the patient on a morphine dosage of usually three to four gr. This is done over the first two, three, or four days of hospitalization and is necessary in order to find what the patient's dosage was, to allow the patient to become somewhat adjusted to the institution and to have complete physical and laboratory studies prior to removal of the drug. It should be pointed out here that the patient's word for the dose taken each day is in our experience completely unreliable. Some patients exaggerate the amount they have been taking so that when the dose is reduced they will be getting approximately their previous daily dose. Other patients have been taking bootleg morphine which has been cut without their knowledge and actually represents only a fraction of the dose which they think they are taking. The total dosage of three to four gr. of morphine distributed throughout the day will usually keep the more severe addict free of true withdrawal symptoms. It is true, however, that many of them will complain of aches and pains and so forth but these complaints are best ignored. After this preliminary observation and study period the daily dose is then reduced by approximately one-seventh of the dose each day. During this period the patient should be placed in continuous tubs for one to two hours, three times a day, sedative packs, and given some type of mild sedative to insure sleep at night. In our hands, paraldehyde has proven to be the drug of choice as paraldehyde acts rapidly.

GRADUAL WITHDRAWAL OF THE DRUG. Procedure in these cases is essentially the same as under Rapid Withdrawal, except the dose is reduced by a smaller percentage each day so that it is reduced over a period of 40 to 50 days instead of seven to 14 days. In our experience the patient usually leaves the hospital and promptly relapses before he is completely off the drug by this method. It is also our experience that this method has little to offer and merely prolongs the agony. We much prefer the rapid withdrawal method. During the period of withdrawal and following it is necessary to bring about both physical and psychologic rehabilitation of the patient. Physical rehabilitation is simple. It consists in controlling the withdrawal symptoms by means of sedative tub or packs as mentioned above, judicious use of sedatives, and insuring the patient good food and fluid intake. It has been our custom to use small doses of insulin to stimulate the patient's appetite during this period. There was a considerable popularity of the use of somewhat larger or so-called subshock doses of the insulin in the belief that this would reduce the withdrawal symptoms and act as a substitute for the morphine. Careful studies by the United States Public Health Service have failed to verify this impression. In spite of this many institutions continue to use injections of insulin of 15 to 25 units three times a day feeling that it does cut down the withdrawal symptoms, and certainly it stimulates the patient's appetite and makes his physical rehabilitation somewhat easier. Psychologically these patients need a great deal of attention. Most of them, particularly those who have been involved with the law, feel somewhat depressed, dejected and disgraced. Attempts to work out the deeper psychologic mechanisms behind their addiction have in some instances revealed much interesting material. In many cases, however, the patients are not interested in this particular phase of the problem and refuse to coöperate. In some patients a great deal of individual attention by some physician will succeed in establishing a particularly strong rapport with the patient and some progress can be made. In our experience, however, this is not frequent.

Where investigation along these lines reveals the presence of deep-seated neurotic material or evidences of emotional maladjustment other than morphinism, the treatment should be along the lines indicated in conditions not complicated by excessive use of drugs. The environmental manipulation in these patients is important. They should be segregated and removed from their old associates. The patients should be given new interest in life where possible and should be rehabilitated as far as their occupation is concerned. It is interesting to note that there is a rather high degree of addiction in certain groups. Public Health Service statistics reveal that waiters, porters, gamblers, physicians, nurses, druggists and dentists are particularly prone to take the drug. This presents a particularly difficult problem when the patient is a physician or a nurse, who are by the nature of their profession in daily contact with the drug and have opportunity to steal a little here and there. These people should be advised to pursue some particular branch of medicine or nursing where access to these drugs is impossible or unnecessary.

At this time it is probably well to discuss the various so-called cures of drug addiction. These vary from sincere attempts to remove the patient's desire for the drug, carried out by orthodox physicians, to the most obvious quackery by people interested only in selling some worthless preparation. The standard treatment going by various proper names according to its variation is so-called "Lott," or "Petty," or "Lambert" treatment. The basis of these treatments is giving the patient atropine, hyoscine, or other forms of belladonna alkaloids which induce in some instances a mild delirium. With this is induced a severe diarrhea by the use of castor oil or saline medication. The "Petty" treatment also incorporates small doses of strychnine which is supposed to stimulate the patient and thus remove his desire for the drug. Some years ago Bancroft formulated a theory as to the action of sedative drugs which had to do with a disturbance of the colloidal distribution in certain of the tissues. It was felt that the injection of sodium thiocyanate in some manner combated this disturbance in the coagulation of the colloids and brought about a relief of dependence on the drugs. Sleep treatment, as used in the manic-depressive reactions, has also been recommended. A few years ago a preparation called "narcosan" enjoyed considerable popularity and was even used by a good many members of the orthodox medical profession. This was also based on Bancroft's lipoid theory. The preparation was probably physiologically inert. Various endocrine treatments have been recommended. Chief among these is the use of insulin shock similar to that used in the treatment of schizophrenia. Patterson has recommended the use of ovarian hormones and other workers have used adrenalin, thyroid, and other preparations. The Modinos treatment was based on the theory of immunity, the idea being to raise artificial blebs or blisters on the patient then to remove the fluid and inject it. This, or its modification, autohemic therapy, was supposed, in some mysterious manner, to remove the patient's need for the drug. The preparation "Rossium" was also used in the treatment of these addicts. This was based on the theory that the use of morphine was a form of allergic difficulty. Hypnosis and other types of suggestive treatment have been used. Statistically the use of these methods increases the mortality rate from the withdrawal, according to the report from the United States Public Health Service. In all instances, of course, the patients do get off the drug for the simple reason that the above preparations are substituted for the morphine. The method has nothing to do with it, however, and the fact that the patient is in an institution and that the drug is withdrawn in itself explains why they no longer take it.

Every morphine addict has heard of withdrawal symptoms. In an effort to keep his dose up and to get the nurses to give him relief, many of them pretend or grossly exaggerate their symptoms. Much study on the withdrawal symptoms has been done in hospitals devoted to the care of these patients. The physiologic withdrawal of the drug does produce the following signs; yawning and lacrimation are extremely common, attacks of sneezing are frequently seen, associated with these is a certain amount of motor restlessness and profound sweating and chills, many of the patients vomit and they often develop a severe diarrhea accompanied by abdominal cramps. Speech disturbance is also one of the withdrawal symptoms. The withdrawal symptoms usually start within about 48 hours of withdrawal of the drug and usually subside in five to 14 days.

Prognosis in Morphinism. As mentioned above the prognosis is poor. According to the Public Health Service the average patient after a prolonged enforced cure stays off the drug approximately eight years before he relapses. Voluntary patients on the other hand usually stay off the drug two years or less. Many patients relapse in less than a month and I think all of us have had experience with patients starting back on the drug within one or two days of their dismissal from the hospital. The Public Health Service estimates that not more than about 10 per cent stay off the drug for more than five years. The reasons for relapse are many and are, of course, typical of the ingenuity of these patients in finding an alibi. Often it is taken to relieve an alcoholic hangover or to obtain relief from some other painful experience. Some of the patients take it for a repetition of the original experience, to get a thrill.

A word seems necessary concerning some of the newer synthetic narcotic preparations. Demerol and Methiadone were both brought on the market, as were many earlier preparations, with the hope that they would be nonaddicting drugs. Unfortunately, patients become dependent upon these preparations just as they do upon morphine. It has been our impression that the withdrawal symptoms from these drugs are somewhat less severe than from morphine or Dilaudid, but the patient's psychologic dependence appears to develop almost as readily to these preparations, and accordingly the physician and student should observe the same precautions in prescribing these drugs for the relief of pain as has been used for morphine. The management of patients addicted to Demerol or Methiadone is exactly the same as for morphine addiction.

COCAINE ADDICTION

The general features of cocaine addiction are about the same as in morphine addiction. Like morphine it induces a certain state of well being and is used by many persons to overcome their own sense of inadequacy, or to cope with some environmental situations in which they find themselves. Some persons confronted with peculiar environmental stresses resort to cocaine to bolster up their own ego. The actual incidence of cocaine addiction is not known but it is certainly much less popular in this country than the use of morphine and much more difficult to obtain. In the examiner's experience most persons addicted to cocaine are either prostitutes, physicians, or druggists. Many criminals are supposed to use this drug but it has not been our experience with perpetrators of major crimes to find that cocainism plays any important role in any considerable number of criminals. The drug is commonly taken by sniffing it into the nose but some patients take it hypodermically. Many patients use cocaine as other patients use alcohol, going on sprees with the cocaine and then staying off of it for a period of a few days. Like the alcoholics, as time goes on, the intervals off of the drug become shorter and sprees become longer with increasing quantities of the drug taken. The patients describe the sensation from the drug as first inducing a sense of dizziness and sometimes a mild headache. Following this they become rather hilarious and euphoric, many of them show a marked push of speech and motor activity. The euphoria and increase in motor activity and speech probably explain its relative popularity among physicians, prostitutes and other people who have to put on a good front before the public even after they are fatigued and bored. With prolonged use the patient generally becomes paranoid, suspicious, depressed and, at times, develops an interesting combination of somatic hallucinations and delusions. These commonly take the form of the cocaine "bugs" or feelings that bugs and worms are crawling under the patient's skin. In our experience this type of hallucination is rather common among cocaine habituées but is not restricted to them. We have seen it in patients taking both alcohol and bromides in excess. The withdrawal treatment of cocaine addiction is identical with that of morphinism.

Marihuana Addiction (Cannabis Sativa)

This drug commonly called marihuana also is referred to as "Hay," "Griefoil," "Aunt Mary," "Reefers," and various other such titles. The plant seems to grow wild in most areas of the continental United States, and the patient either buys or harvests the leaves which are dried and then smoked, much as tobacco is used. Commonly these are rolled into cigarettes and smoked. The incidence of the use of this drug is not entirely known. In recent years it has excited a great deal of public interest and its use is thought to be very widespread. There is one report that states that one person out of every four or five in the South uses this drug. This statistic seems without foundation in fact. It is also assumed without proof that its use is very widespread among boogie-woogie orchestra players, various types of performers, theatrical people, and in the Mexican populace. It is true that certain studies have shown a fairly high incidence of the use of this drug and not long ago a popular band leader was indicted and convicted of using this preparation or rather in having some minor procure the drug for him, and was sent to a

Federal prison on this charge. Recent studies have shown its use to be rather widespread among soldiers of a certain type. In our experience persons take this drug in much the same way, and often as a substitute for alcohol. It is usually taken to induce a sense of euphoria, is generally taken in a group, and in a spree, or jag-like, or party manner. It is not infrequent for a group of people to sit down together and to pass the cigarettes from one person to another until all of them are feeling high. There is some indication that its use is associated with criminal activity. It is not felt that criminal activity results from the use of the drug itself, but rather the person with criminal potentiality, becoming high on the drug, is more apt to commit crimes because the moral controls that he does have are momentarily lulled into unwariness. Their appreciation of, regard for, and concern about the consequences of the crime are also inhibited by the toxic effects of the drug, but certainly the drug of itself cannot give the patient criminal ideas.

The same statement may be made about the rather popular belief that the use of marihuana often leads to sexual excesses and sexual orgies of one sort or another. The sensational publications in this country have done much to formulate this belief. Patients with a desire to carry out sexual excesses are more apt to do so if the inhibitions they possess are removed by the use of the drug, but it must be pointed out that there is no drug known which will give the patient an idea to commit a sexual crime or to participate in sexual excesses. These sexual urges come from within the person and may merely be stimulated by the use of the drug.

Symptoms of intoxication with marihuana are about the same as those with cocaine. Patients become anxious and fearful at first, then they become euphoric with a push of speech. Some patients at this time become irritable, this being an individual variation. Most of the patients describe a peculiar disturbance in the time sensation. Many of them feel that time passes very slowly, that all distances appear very far off. This disturbance of the time and space relationship is the thing that supposedly makes it attractive to jazz band performers, some of these persons feeling that they can play faster while under the influence of the drug because of its apparent lengthening out of time. I know of no pharmacologic or experimental results to verify this, however, and one suspects that the ability to play more rapidly is subjective rather than objective. At times the patients have hallucinatory experiences. Many of them report great sexual stimulation, but as mentioned above this is probably a removal of inhibitions. After two or three hours of being on a "jag" many of the patients go to sleep. There is one very interesting difference from morphine or cocaine, in that marihuana produces almost no hangover and the patients do not as a rule build up a tolerance to the drug.

Treatment of marihuana addiction is essentially the same as that of morphine and cocaine addiction except that the drug may be withdrawn abruptly without any danger to the patient in a physiologic sense. This drug has, in our opinion, absolutely no therapeutic value and the control of this type of addiction would appear to be the obliteration of this class of vegetation from the world. Because it grows freely and wildly in so many areas of the world this becomes a formidable task.

The following case is a rather typical example of marihuana intoxication. It shows the instability present in most of these individuals and illustrates how the patients use the marihuana to obtain a lift and in place of a party beverage. Many patients have told us that they can get the same kick out of a fifty cent "stick" of marihuana as they can out of a pint of whisky, and that the marihuana is not only cheaper but does not give them a hangover.

Patient was a 25-year-old, single, male, brought to the hospital in February, 1935, by his father. The father believes he is dangerous because he imagines people are trying to kill him, claims he can see his girl with her throat cut, smells gas coming from under his mattress. He also believes that his testicles have been cut off. Patient states that he is being tricked, that automobiles jump at him and as he goes down the street somebody is giving him shocks. The patient was a temperamentally unstable, fearful, imaginative child who has a very poor work and school record. At the age of 13 the right testicle was accidentally injured. Patient drinks beer and whisky occasionally and during the past year has been taking marihuana. During these bouts he has been in many fights and has been badly beaten on several occasions. The present episode of taking marihuana followed a family quarrel. Upon admission the patient was apprehensive, careless of his appearance, openly masturbated, was quite preoccupied, and felt that his father and sweetheart were on the ward. At times he was very confused and excreta careless. His speech was slow and retarded at times, and frequently irrelevant. Spontaneous activity was mostly in response to his hallucinations. He was apprehensive and fearful throughout most of the day. Hallucinations and delusions mentioned by the father were present on admission. He was oriented for place but at times confused for time. Recent memory was impaired but remote memory intact. His speech was slurred and the tongue was tremulous. Physical examination revealed dehydration, emaciation, and an intention tremor. Laboratory studies were all essentially normal. On eliminative therapy, with hydrotherapy and withdrawal of the drug, patient cleared up in about seven days. At the end of a week he was free of hallucinations and his sensorium was entirely clear. Nineteen days after admission the patient was removed by his father.

Bromide Intoxication

The principles outlined under Barbital Intoxication apply equally well to bromides. Drugs of the bromide series are not as popular as in the last two generations but are used by some physicians. At present such patent medicines as "Nervine," "Bromo Seltzer," and similar popular concoctions make it necessary for the physician to be ever cautious concerning the possibility of bromide intoxication in any patient showing evidence of organic or toxic mental symptoms. In many states the passage of laws limiting the use of barbitals has forced patients who are on self medication to the use of bromides because in many instances the bromides have been left out of the law due to powerful pressure groups representing the above-mentioned patent medicine companies as well as others. Symptoms of bromide intoxication are those of hypersomnolence, often punctuated by episodes of acute hallucinatory reaction. The following case illustrates a typical example of both the symptomatology and the proper treatment of this disorder.

R. F., aged 42, post office clerk, admitted May 18, 1930, with complaint of a delirious reaction.

The onset of present trouble was the beginning of April when the patient had a chest condition, diagnosed as influenza. He was very weak and did not recover rapidly. At the beginning of May he had a relapse, stated by the doctor to be due to pneumonia, when he was mildly delirious at times. Four days later he became delirious again and had to be taken to a hospital. He talked constantly and incoherently about the penitentiary riot at Canon City, was violent on one or two occasions, and very confused. He made continual efforts to get out of bed. He became steadily more violent. During the first violent attack, four days before admission to a hospital, he was given bromides and since that time had taken 1 dram every four hours. In addition, he had had some luminal. Under this medication he remained fairly quiet, but on one occasion had to be given chloral. He finally became so disturbed that the general hospital authorities were unable to keep him and he was admitted to the psychiatric hospital. History of attack of pneumonia at five. Had stomach trouble for last 12 years, for which he had dieted and taken milk of magnesia and occasional doses of Nervine. Is now post office clerk and before this was a clerk in the penitentiary. Married 20 years and has a child of 19. His personality is that of a serious and very sensitive individual, prone to worry, especially over financial affairs. He has many friends but is not a good mixer. The patient remained quietly in bed most of the time, but at other times, he plunged out of bed and crouched in the corner of the room, evidently much frightened. On another occasion, he leaped violently from his bed, saying a "red devil" was after him and rushed into another room, banging his face severely on the door. At times he would run his finger up and down the wall chasing imaginary animals away. He wept easily. He was coöperative during his more lucid intervals. Talk was spontaneous and coherent. There was a certain degree of flight of ideas. Answers to questions were frequently irrelevant. Psychomotor activity was increased, the patient gesticulating freely. Affect was predominantly that of marked apprehension, with a definite emotional instability. The patient talked a great deal about the penitentiary riot. He described scenes he had witnessed and appeared to hold himself responsible, although he had not been there. He had some delusions of reference, saying that when he turned around suddenly he would see people pointing at him and hear them talking; he gave the names of the people. There were some paranoid ideas on the basis of his hallucinations. He had both auditory and visual hallucinations. He heard people shooting all night and thought it came from the penitentiary. He saw a fellow looking through a hole in the roof and trying to shoot him. At times he saw animals running up the walls. He complained of seeing flashes of light. He was disoriented for time. He knew he was in a hospital but did not know where or what kind. Remote memory appeared good, when relevant answers could be obtained; recent memory was much impaired. He retained four digits forward. General information was adequate. He showed some slurring of speech. Writing was a mere scribble and no letters could be made out. Insight was partially present. The patient knew he was sick but did not realize his mental confusion. The patient appeared very ill. His tongue and lips were parched and were covered with dry brown fur. There were no signs in the chest on admission, and the x-ray was negative. Neurologically marked tremors of the lips, tongue and outstretched hands were present. There was some incoördination and ataxia. All reflexes were hyperactive. Urinalysis showed a specific gravity of 1,027 with a mild degree of albuminuria. The blood count showed 86 per cent of polymorphs without leukocytosis.

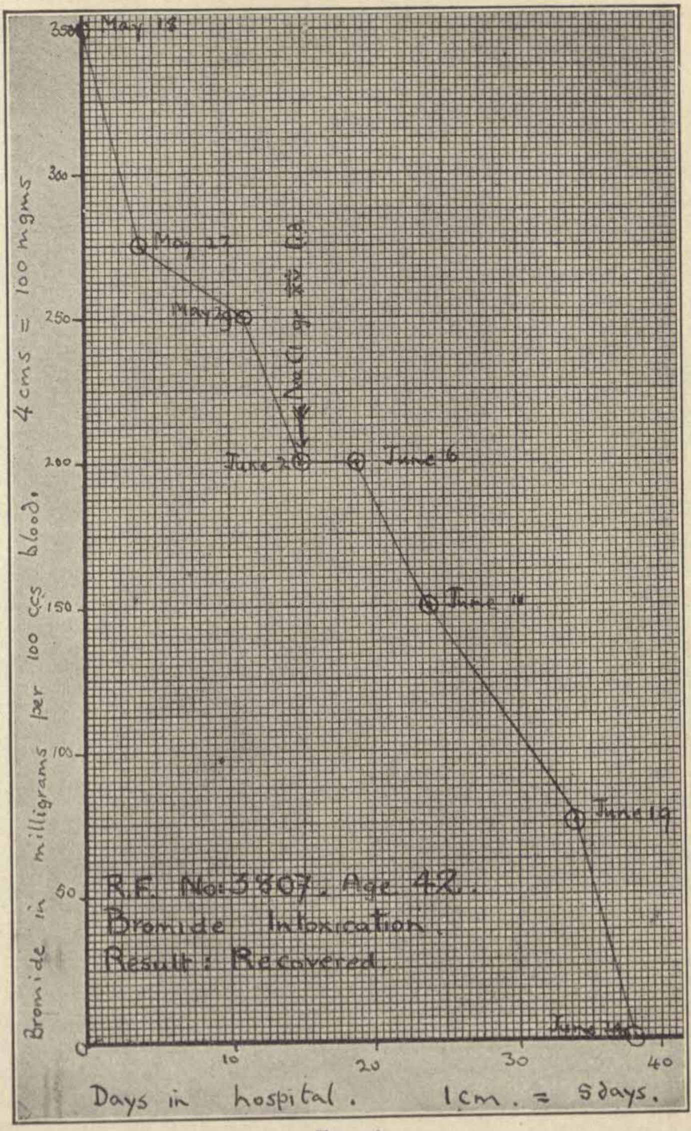

FIG. 16.

Blood and spinal serology were negative, the spinal protein was 48. The blood bromide concentration on May 18, day of admission, was 350 mg. per 100 cc. By May 22, it had dropped to 275; May 29, to 250. Administration of sodium chloride was begun on June 2, at that time the concentration was 200. On June 6, it was still 200. By June 11 it had fallen to 150 and to 75 by June 19. It was negative on June 24. (Fig. 16). During the first two and a half weeks the patient had an elevation of temperature of a remittent type varying between 99.6° and 101°. No condition other than bromide intoxication was found to account for this. He was placed on

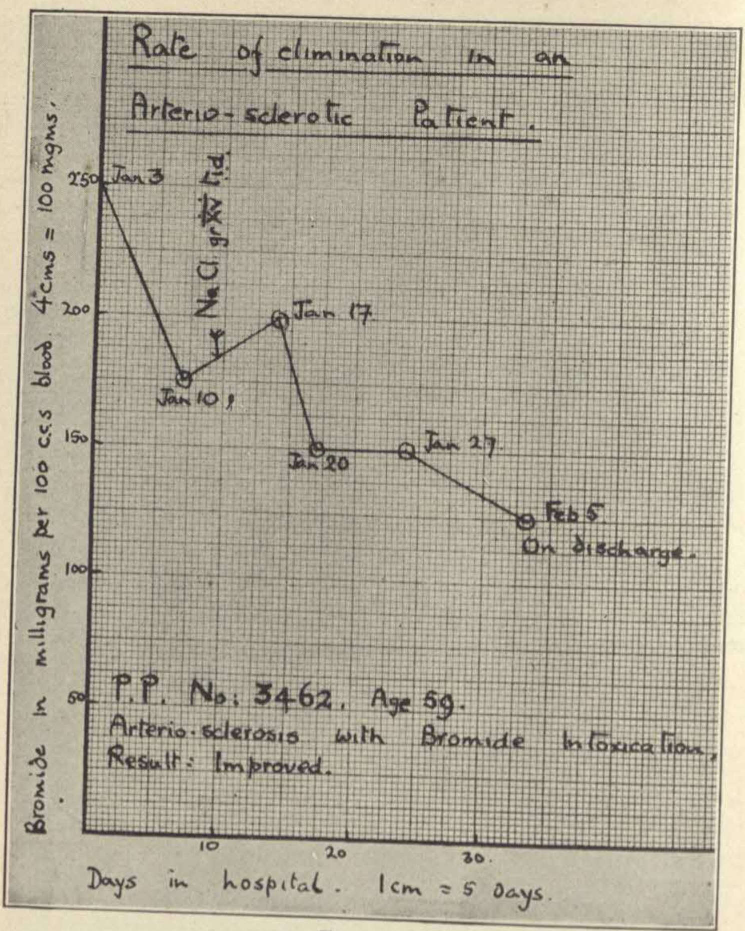

FIG. 17.

eliminative regime with continuous tubs for one hour twice a day, daily colonic irrigations and increased fluid intake. Sodium chloride gr. xv t.i.d. was added to this treatment after the blood bromide concentration had dropped to 200 mg.

He showed only slow improvement during the first 36 days in the hospital. At the end of that time the hallucinations disappeared in the course of a day, the delusions persisting in a mild form for four days longer. His apprehension vanished at the same time. He was discharged as recovered a few days later, with good insight into the origin of his difficulty. He has been followed in the Out-Patient Clinic since, has had no return of his difficulty and is making a good adjustment. A case of bromide intoxication showing a characteristic delirious reaction has been presented. The source of the bromide was, in the first place, the patient's physician; in the second, occasional use of a patent medicine, Nervine. With sodium chloride in addition to eliminative treatment, the patient made a complete recovery. Besides this physical treatment, his difficulties and worries were discussed with him fully, and he left the hospital with good insight. In all cases of exogenous psychosis it is important to improve the situation confronting the patient in every way possible.

This is an almost vital aspect of the treatment of these conditions and should never be overlooked.

In regard to the administration of sodium chloride, this treatment is on a sound chemical basis in that the chloride ion replaces the bromide ion and creates a chloride-bromide equilibrium. In this case sodium chloride was not given until the blood bromide had fallen to 200 mg. per 100 cc., as we have repeatedly found that its administration temporarily increases the bromide concentration in the blood by hastening the liberation of bromide from the tissues while elimination by the kidneys proceeds at the original rate.

In this connection Fig. 17 has been inserted for comparison with that of the case reported. It represents the rate of diminution in bromide concentration in a man of 59. In the first graph after the administration of sodium chloride the concentration remained stationary for four days, while in the second, where arteriosclerotic elements were present, sodium chloride intake was followed by increase in blood bromide. We have found consistently that intoxication is much more likely to occur in cases where, owing to cardiac, renal, or arteriosclerotic disease, elimination is retarded. The slowness of excretion of the bromide in arteriosclerosis is well illustrated by the second graph.

Examination of the blood serum for evidence of bromides is now being made routinely on all cases admitted to the Colorado Psychopathic Hospital, and the results obtained in the first 11,440 consecutive cases so examined are summarized in Tables 3–6.

Table 3

INCIDENCE OF BROMIDE INTOXICATION IN 11,440 PATIENTS EXAMINED

Number of Patients Examined	*Patients with Bromide in Serum*	
	Number	*Per Cent*
11,440	490	4.28

Table 4

SOURCE OF BROMIDES

Source of Drug	*Number of Patients*	*Per Cent of Patients with Bromide in Serum (on Basis of 490 Patients)*	*Per Cent of Total Number Examined (on Basis of 11,440 Patients)*
Prescribed by physician	136	27.75%	1.19%
Undetermined	259	52.86%	2.26%
Nervine	26	5.30%	0.23%
Bromo Seltzer	14	2.85%	0.12%
Other patent medicines	27	5.51%	0.23%
Obtained at drug store	28	5.71%	0.24%
Totals	490	99.98%	4.27%

Of the 11,440 cases examined, 490 or 4.28 per cent, showed a bromide concentration in the blood 75 mg. per cent or over. Of these, 1.19 per cent or approximately one-fourth of the total received the drug from a physician. When bromide is administered the possibility of intoxication should be continually borne in mind and it is the physician's responsibility to make frequent examination of the serum concentration. Any bromide level above 150 mg. per cent should be regarded as capable of producing delirium. The method described by Otto Wuth in the J. A. M. A. of June 25, 1927, Volume 88, page 2013, is recommended. The Lamott Chemical Product Company makes a simple colorimeter for use with this method and full instructions for its use are contained with the instrument.

Table 5

PURE DRUG INTOXICATIONS

	Number of Patients	*Per Cent of Cases Showing Bromide in Serum (on Basis of 490 Patients)*	*Per Cent of Total Number Examined (on Basis of 11,440 Patients)*
Pure bromide intoxications:			
Recovered	26	5.31%	0.23%
Improved	19	3.88%	0.165%
Unimproved	1	0.204%	0.008%
Died	2	0.408%	0.017%
Totals	48	9.802%	0.420%
Mixed drug intoxication:			
Recovered	11	2.25%	0.096%
Improved	14	2.86%	0.022%
Unimproved	1	0.204%	0.008%
Died	0		
Totals	26	5.314%	0.126%

BARBITAL INTOXICATION

Drugs of the barbituric acid series are the most popular sedative used by the medical profession and the use of barbituric acid derivatives in their various forms is an ever-increasing problem. Most of the medications are used by persons who are either having some emotional crisis which induces nervousness, tension, anxiety, and disturbance in the sleep pattern or are used by patients suffering from one of the chronic neurotic disorders who use the drug for its quieting effect and to produce sleep. The medical profession has been guilty of promoting the widespread use and abuse of these preparations. In many states the drug may be bought in any of its forms over the drug counter in a manner similar to that of any patent medicine or cosmetic. Other states, realizing the seriousness of the problem, have laws making it mandatory that druggists have a physician's prescription for the use of the preparation. Even in these states, however, the medical profession continues to prescribe the drug, at times in an indiscriminate and extremely injudicious manner. The use of the drug is found in all ages, all sexes, and in all racial groups. Some patients take the drug constantly for years, others take it in large doses over short periods of time and then refrain from its use. No really accurate statistics are available as to the incidence of the use of the drug and we have no information as to how many patients become habitual users of the preparation. Any person working for any time in a large public or private clinic must, however, be impressed by the number of patients who come back each year asking for a refill of the preparation, and many of the patients even describe the particular one of the barbituric series they desire and request a certain number of

Table 6

Distribution of Bromide in the Psychoses

	75–150	*150–200*	*200–300*	*300 and Over*	*Totals*	*Per Cent*
Psychoneurosis	55	10	4	6	75	15.30
Manic depressive:						
Depressed	32	7	2	0	41	8.37
Manic	10	2	3	0	15	3.06
Pure bromide	9	5	13	21	48	9.79
Mixed drug	13	6	3	4	26	5.31
Schizophrenia	62	9	4	3	78	15.91
Cerebral arteriosclerosis	24	6	3	3	36	7.35
Epilepsy	13	4	3	2	22	4.49
General paresis	14	3	1	1	19	3.88
Cerebrospinal syphilis	0	1	1	0	2	0.41
Senile psychosis	12	2	1	1	16	3.26
Brain tumor	1	0	0	0	1	0.20
Postencephalitis	1	0	1	0	2	0.41
Infection with delirium	11	1	0	0	12	2.45
Alcoholism:						
With psychosis	11	6	3	4	24	4.89
Without psychosis	19	0	6	3	28	5.71
Mental deficiency	2	0	0	0	2	0.41
Unclassified psychosis	3	0	0	0	3	0.61
With somatic disease	4	2	0	1	7	1.43
Constitutional psychopathic inferior without psychosis	7	1	0	1	9	1.83
Amyotrophic lateral sclerosis	1	0	0	0	1	0.20
Other conditions without psychosis	12	1	3	1	17	3.47
Posttraumatic	2	2	1	1	6	1.23
Totals	318	68	52	52	490	99.97

capsules or tablets of a certain dose. The physiologic dependence upon the drug does not seem to be great but there is no doubt that continuous use builds up the individual's tolerance, for some people take relatively huge doses of the drug each day.

Etiology. Like all sedative preparations patients take the drug as a crutch to tide them over real or fancied emotional crises. It has been our experience that the common users of the drug are chronic psychoneurotic patients. In most instances these persons have gone to a series of physicians and clinics for relief of their symptoms. Many of them have been subjected to much unwise and injudicious surgery and medical manipulation. In almost all instances the patients have been introduced to the use of the drug by their physician or by some interested person in the neighborhood who had first come to acquaintanceship with the drug through some physician or nurse. It is true that many physicians take the preparation themselves and it is not uncommon to find people taking this drug more or less routinely to insure sleep on a pullman train or after a night of alcoholic excess. Such unwise and unwarranted use of the drug is probably only a reflection of the medical profession's general belief that the drug is relatively harmless. These beliefs are maintained in spite of much evidence to the contrary. It is encouraging to note that in recent months the public is becoming somewhat aroused over this problem and such magazines as *The Reader's Digest*, and others have contained articles concerning the seriousness of this problem. It must be reemphasized, however, that persons who are normal and stable rarely become habituated to the use of the drug. Usually it is used to allay sensations of anxiety or tension. As a temporary crutch in patients who are fearful, about to be subjected to surgery, or in some critical situations, the drug has its rational use. To use this drug to alleviate the chronic anxiety and the chronic complaints of the psychoneurotic patients, however, is to give symptomatic treatment in a condition which had better be treated from an etiologic point of view.

Symptoms. Symptoms of barbital addiction are rather simple. The patients experience a feeling of relaxation, lethargy and general well being. Most patients respond to the use of the drug by becoming sleepy and many of them use it exclusively to induce the oblivion of sleep.

Withholding the drug usually results in sleeplessness, increase in anxiety, and much motor tension. In some individuals abrupt withdrawal of the drug after long use will result in convulsive phenomena. Some persons believe that these people are latent convulsives, others believe that the effect is purely the withdrawal of the pharmacologic inhibitory effect upon the central nervous system. Further investigation of these factors is indicated. The authors have seen patients who have been on this medication for many years, who reveal no evidence of any type of intellectual or central nervous system degeneration or deterioration. Other patients become rather dull, lethargic, and irritable. In some individuals chronic paranoid tendencies seem to develop. Many of them undergo intellectual deterioration, become ineffective and inefficient in their business, social relationship, and in general resemble the picture sometimes seen in chronic alcoholic deterioration. This picture is, however, rare and occurs only after prolonged excessive use. We have seen one case of Korsakoff's reaction of a typical type in an elderly graduate nurse who had been ingesting 30 to 60 gr. of one of the barbituric acid series daily for many years. It is interesting that this patient ate very little and her food intake contained little of the vitamin carrying foods. Some of these patients enter the clinic with symptoms resembling organic deterioration and are originally felt to be suffering from some type of organic brain disease such as brain tumors, paresis, and so forth. An occasional patient will show acute hallucinatory symptoms with the barbital, but in our experience this is the exception rather than the rule. When present the delirious picture offers little to distinguish it from that due to any other toxic preparation.

Treatment. In our experiences most patients may be withdrawn from the drug abruptly. In those who have been taking high dosage, such as 30 gr. of one of the rapidly reactive barbitals per day, over a long period of time, the drug is withdrawn slowly to avoid the panic-like anxiety it sometimes induces and to avoid the potentiality or possibility of convulsions. During the withdrawal period the rehabilitation measures outlined under Morphine Addiction are carried out.

To avoid the possibility of convulsions during the withdrawal period in patients on large doses, we prescribe Dilantin, 0.1 Gm., t.i.d. After the barbitals have all been withdrawn for three or four days, the Dilantin is then decreased by 0.1 Gm. daily until the patient is off all medications. Clinical judgment must be used as to rapidity of withdrawal of the barbital. The larger the dose and the longer the duration of the addiction, the slower must be the period of withdrawal if the patient is to avoid having seizures. We believe that the drug can be withdrawn in about two weeks even in the most severe habituation.

Prognosis. In our experience, if the patient is suffering from some type of neurotic or depressive psychotic reaction, the treating of the underlying conflict removes the need for barbiturates and the patient stays off the drug satisfactorily. We are much more optimistic concerning our ability to get patients to refrain from taking these preparations than to refrain from either alcohol or morphine. This we feel to be due to the fact that barbital offers little appeal to the psychopath and the constitutionally unstable person. Most individuals taking it are suffering from some type of neurosis and the prognosis varies with the treatability of this particular neurotic reaction.

In many types of exogenous reactions, the toxic material is ingested accidentally by the patient. This is particularly true in industrial accidents or in an industrial situation where the health service is not functioning in optimum manner. Cases of toxic reaction due to T.N.T. poisoning, paint ingestion, and other things, have been seen in many patients during the war period. These poisonings may be prevented by an adequately functioning industrial health service and tremendous advances have been made in this country in recent years. In surveying toxic patients for possible sources of poisoning it is well to consider the use of "sulfa" drugs. The authors have seen several patients who have been receiving one of the sulfa preparations for the treatment of acute infectious illness. As the infectious symptoms subside and the patient is expected to begin to improve, in many instances, a typical delirious reaction develops. In some patients, it is one of confusion and mild stupor. In others, there are paranoid projections, irritability, and hallucinatory experiences. There is nothing to distinguish this form of delirium from that due to other drugs but it will usually be discovered if the patient is still taking the sulfa preparation. The symptoms clear up promptly upon removal of the drug. The following case is typical of the toxic reaction seen in some of these accidental poisonings. The example is one in which the patient inhaled carbon monoxide over a prolonged period of time.

Patient, a baker. Married. Age 48. Admitted December 27, 1922. Died, January 13, 1923.

CLINICAL HISTORY. The onset of present trouble was November 25, 1922, when the patient was accidentally poisoned by illuminating gas. This accident was caused by failure to turn off the gas stove in his room before going to sleep. His wife, not realizing the stove was turned on, placed a quarter in the meter about noontime. She did not know anything had happened until she went to call her husband at 8 P.M. At this time he was in an unconscious condition and the police were summoned and took him to a hospital. A report from the hospital states that he remained unconscious for five days and that he was delirious when he came out of the coma. He was discharged December 6, 1922, apparently improved.

On arriving home he was extremely weak but planned to return to his work in the bakery. On December 8 he attempted to work but returned home after two hours. From December 12 to December 16 he worked. On December 16 his employer sent him home because he was fatigued and appeared dazed and confused. At times he trembled all over, and later, December 22, he revealed definite mental symptoms. He imagined he was working in the bakery; mixed up all kinds of ingredients, insisting that he was making bread. He played with matches; attempting to light a tobaccoless pipe; mixed pills and tobacco, etc. He showed marked nocturnal restlessness. This behavior continued until December 27, the day of admission, when the patient's daughter discovered that he had turned on all of the gas burners and had spent one-half hour in a gas-filled room. This necessitated his removal to the Psychopathic Ward. The family and personal histories were essentially negative. There was no evidence of any neurologic condition previous to this illness. Mental examination on admission revealed an acute delirium reaction. The delirium was of the occupational type.

The neurologic findings were of interest and can be summarized as follows: There was slight fixity of the facial expression. The lips were of cherry red color. There was marked rigidity of the neck. The arm, forearm, and hand group of muscles were rigid. At times there was a tremor of the paralysis agitans type. The abdominal muscles were extremely rigid and the lower extremities were hypertonic to a less degree. There was no dysarthria and no dysphagia. On passive moments, there was a distinct rhythmical interruption.

All reflexes were present equally and overactive. The toes were held in the

Babinski position. No clonus present. Gait showed the ataxia of weakness. He lost his balance easily and on several occasions showed a tendency to retropulsion. All movements were slow and deliberate. Otherwise, examinations were negative. Blood pressure 150/98.

LABORATORY DATA. Blood and spinal fluid were negative. Colloidal gold gave a normal curve. Spectrum analysis for CO was negative on two occasions. Hemo. 90 per cent. R.B.C. 4,120,000. White and differential counts were normal.

COURSE IN THE HOSPITAL. There was a progressive failure both mentally and physically. The neurologic findings remained stationary up to time of death, which was due to terminal bronchopneumonia.

DIAGNOSIS—TOXIC DELIRIUM. Acute lenticular degeneration following carbon monoxide poisoning; terminal bronchopneumonia; chronic nephritis.

ENDOGENOUS TOXIC REACTIONS

One of the largest fields for psychiatry in the practice of medicine, is in the psychotic reactions coincident with the fever and toxemia of infectious diseases, with exhaustion, with metabolic and deficiency diseases, with cardiorenal disease, and in almost every known pathologic condition. There is no dividing line. The patient with lobar pneumonia who is a problem in physical diagnosis may in a few hours become delirious and consequently a problem in psychiatry. The patient who is convalescing from influenza may suddenly become depressed and suicidal. The patient with cardiac decompensation may rapidly become irritable, suspicious, confused and delusional. It may be taken as an axiom, that every somatic disease has, clinically, a mental as well as a physical expression. Only a few of the psychotic responses may be mentioned.

The typical reaction to fever and bodily poisoning is delirium, with motor excitement, incoherence, hallucinosis, disorientation, deep confusion or at least some degree of clouding of consciousness. Convulsions, catatonia, and stupor may occur. This syndrome, complete or partial, often appears in typhoid, pneumonia, influenza, rheumatic fever, malaria, and in any infectious disease of child or adult life. Frequently delirious-like psychosis described as "amentia" by the Austrian schools and "symptomatic psychosis" by the French and American writers occur in the setting of anesthesia and surgery or parturition. These states are characterized by confusion, hallucination, fluctuations of attention, excitement or stuporous tendencies and frequently, as orientation returns, dwindle off through a paranoid phase in which the delusional emotional reaction stands out clearly. When exhaustion is the predominant factor, the manifestations of delirium are usually milder and there may be depression, irritability, and suspiciousness. This form occurs after long and debilitating illness, hemorrhage, severe overexertion, deprivation of food, prolonged insomnia, etc.

The picture of uremia is too well understood to require much reiteration. With a background of convulsions on the physical side and mentally a clouded consciousness, there may be depression or euphoria, hallucinosis and delusional formation. The delusions are usually of the persecutory type with accompanying fear, restlessness, and agitation.

In hyperthyroidism there is apt to be irritability and excitement even to the point of mania; there may be depression, suspiciousness and apprehension. Stone has recently summarized psychoses associated with thyroid disease, and states that thyroid disturbances (1) may cause mental disease in the form of a toxic psychosis; (2) that they may aggravate an already established psychosis; (3) that they may have no influence whatsoever on such a psychosis; (4) that they may bring to the surface a latent mental disturbance; and (5) that in some instances, an increased thyroid activity actually may be induced by a psychosis. In hypothyroidism the patient is dull, inattentive, and the memory is impaired. All of the mental operations are slow and imperfect. There may be episodes of anger, sometimes on a delusional basis.

In diabetes there may be depression, with self-depreciation and self-accusation; consciousness is often clouded and there may be disorientation with confused ideas of persecution. Dullness, apathy, somnolence and coma may appear. Overdoses of insulin cause a sense of uneasiness followed by hunger, pallor of the skin, perspiration, and muscular weakness with a slight tremor. In extreme hypoglycemia convulsions and coma occur. (Severinghaus.)

In gout there may be delirium and confusion.

In pellagra mental symptoms are common, depression with suicidal tendencies, confusion, delirium, and stupor are often encountered. A Korsakoff-like reaction is not infrequent.

In rheumatic fever with the pyrexia, there may be an acute delirium with hallucinosis. We have seen several instances of deep stupor preceded by ideas of death.

In malaria, in addition to delirium, there may be convulsive seizures.

During pregnancy, parturition, the puerperium, and lactation, delirium and confusion may arise and these critical episodes may be the starting point of manic-depressive psychosis, dementia precox, and even paresis.

Influenza takes a heavy toll of the central nervous system. Depression and melancholia stupor may appear and influenza and the postinfluenzal state apparently may precipitate the major psychoses.

Epidemic encephalitis may give rise to a variety of mental symptoms. There may be irritability, restlessness, marked motor agitation, delirium with fleeting hallucinosis and paranoid delusions and lethargy, deepening to stupor and coma.

The physician must bear in mind that none of the psychotic reactions which accompany somatic pathology are disease entities. The terms "puerperal psychosis," "influenzal psychosis," etc., are misnomers. More important than an attempt to remember individual reactions, is the anticipation on the part of the physician of the likelihood of mental symptoms and his ability and readiness to cope with them. The symptomatologic background is some degree of delirium. The basis of delirium is a syndrome of clouding of consciousness, motor restlessness, incoherence, and emotional lability. Such a background is often filled in by hallucinosis, transient delusional formation, etc. If the physician has clearly in mind the febrile and toxic genesis of these symptoms, he will at once appreciate the logic and life-saving effect of removal of the cause, elimination, large fluid intake, avoidance of narcotic drugs, and hydrotherapeutic, tonic and dietetic routine. It is undoubtedly true that here a knowledge of the psychiatry of internal medicine often means the difference between life and death.

The following case is an example of a delirious reaction with pellagra. It is retained because it illustrates that these patients were successfully treated prior to the introduction of synthetic vitamin therapy, and it illustrates the longer period of treatment necessary with the older methods utilizing crude vitamin preparations.

Patient a 30-year-old female, admitted October 3, 1922. Complained of recent loss of weight, diarrhea, peculiar skin condition. R. B.'s relatives stated the onset of her present illness was April, 1922, when it was noticed that she complained of diarrhea which did not respond to the usual medication. Her mouth became very sore and an eruption of the skin developed over the backs of both hands and extended halfway to the elbow. She lost 20 pounds. In 1922, she began to talk in a very irrelevant fashion, was very apprehensive. She frequently screamed and cried out in the middle of the night. At times during this period, she complained of depression and threatened suicide. On one occasion she attempted to jump out of the window but was prevented by her husband. Since July she has had to be watched continually since she frequently abused her children. This in contrast to her former affection for them. Frequently she was confused, on one occasion wandered for a long time about the city. She became progressively worse.

Her family history and personal history are only of interest in that she had received very little schooling. She was brought up in the South and her husband said that she had had an attack like this one in 1916. Since living in Philadelphia, she had been very irregular in her eating. The husband, however, considered the diet to be normal. The patient was extremely ill and emaciated. Skin was loose, atrophic and there was evidence of recent loss of weight. There was a symmetrical dermatitis over both hands and forearms. No other areas of skin involvement were noticed. Very marked stomatitis was present. Liver and spleen were palpable, but were not considered to be enlarged. The neurologic examination was completely negative. Temperature was 98.6°. Pulse 92. Respiration 24. The patient appeared acutely ill. At times she would hold her head in her hands, moaning and crying. She was particularly agitated and apprehensive at night and wandered around the ward in a confused manner, being unable to find her way to the lavatory. Her speech was irrelevant and incoherent. For instance, she would call out to her children whom she imagined were in a room downstairs. She often heard her husband talking to her or behaved as if she were at home cooking a meal for her family. Occasionally she had overactive periods when she was very impulsive and resistive. Her mood tended to that of depression. She felt downhearted over her "terrible ailment." She was preoccupied with the feeling that harm would happen to her or to her family. She felt that people were "working against" her. She stated that she was afraid that her food was poisoned or that some injections would be given to her to put her "out of the way."

Hallucinations were present in both the visual and auditory fields. She "saw" patients looking in at her at night, or heard her children downstairs calling her by name. Her odd behavior in the wards frequently was a response to these hallucinations. She was completely disoriented for time, place, and person. She showed marked defects of memory for recent events. She was unable to give the events of her past life with any degree of sequence. General information, calculation, judgment, and insight could not be determined. Urine showed a trace of albumin, and hyaline and granular casts. Hemoglobin 40 per cent. R.B.C. 3,260,000. W.B.C. normal differential count. Examination of gastric contents showed anacidity. Stool examination was negative for parasites. The patient was given a very abundant diet consisting of meat, beef juices, fruit juices, lettuce, milk, fresh eggs, and fresh vegetables of all kinds.

Medication consisted of sodium cacodylate, dilute hydrochloric acid before and after meals. Morphine preparations were also given to control the diarrhea. Occasional sedatives were administered during excited periods, and veronal and luminal were helpful. The patient showed very little change during her first month in the hospital, except that the diarrhea became less marked. She did not, however, gain in weight until after the second month in the hospital. From that time, she steadily improved up to the time of her discharge, May 1, 1923. By this time her skin condition and stomatitis had cleared up. Routine mouth wash of potassium permanganate helped a great deal. After two months her delirium became transient and her depression disappeared enabling her to be treated in the Medical Wards. Since her discharge, she has been reporting regularly to the Out-Patient Clinic and up to the present time she has been getting along very well. She has rigidly followed our directions concerning a diet, abundant in protein and of high vitamin value.

This case is a typical one of pellagra in which, however, only three of the four D's appeared in the syndrome of Diarrhea, Dermatitis, Delirium, and Death.

Since the etiology of pellagra has been proved to be due to dietetic and vitamin insufficiency, a high protein and vitamin diet should be productive of good results. One should administer large doses of vitamin B_2 in the form of nicotinic acid (300 to 500 mg. per day by mouth) and since neuritic symptoms are often present, thiamin chloride (15 to 20 mg. per day) is also helpful. Recent work indicates that riboflavin is another important vitamin factor to be used in combating this deficiency state. These patients have a hypochlorhydria and the administration of U.S.P. dilute hydrochloric acid before meals aids digestion and increases the absorption of the vitamin B elements from the diet as well as insuring the utilization of the synthetic drug.

Summary. The case given above illustrates a typical delirious state accompanying pellagra. The psychosis associated with pellagra as summarized by Singer may be given in order to complete this discussion:

1. Disorder directly due to the pellagrous syndrome: (a) Symptomatic depression; (b) delirious states.

2. Disorders based on peculiarities in personal makeup—the psychosis being precipitated by pellagra: (a) Manic-depressive psychoses; (b) dementia precox; (c) the psychoneuroses.

3. Disorders due to definite brain changes with pellagra as a complication: (a) Arteriosclerotic dementia; (b) senile and presenile psychoses; (c) general paresis.

Close association between alcoholism and pellagra has been emphasized by Klauder and Winkelmann. Boggs and Padget, in their analysis of 102 cases of pellagra, found approximately 30 per cent were of the senile type, 39 per cent were postalcoholic, and in about 30 per cent, the disease arose as a complication of some other malady. All cases have the common element of a dietary deficient in the vitamin B complex.

Many toxic states follow parturition or surgery. The following case is a typical example of delirious reaction produced by complications following childbirth.

"Postpuerperal psychosis" with typical findings of toxic delirium. Recovery.
E. Q. Age 32. Admitted January 15, 1923. Discharged February 21, 1923.

On January 3 the patient delivered a male child. Although her condition during pregnancy had been considered normal, soon after delivery she became noisy, restless, extremely excited, and hallucinatory. This necessitated her prompt removal to the psychopathic wards. On admission she had a temperature of 101°. Respiration 28. Pulse 115. On admission she was very much excited, emotional, and restless, and had to be restrained to prevent her from running about the ward. Her talk was rambling and incoherent. She was reacting to visual hallucinations. Very tense, apprehensive, and expressed a fear that she was to die, as nothing "could be done" for her. She complained of seeing faces looking at her during the middle of the night; the Virgin Mary; a cross in the room, and angels with harps, etc. She had delusions that the people outside were going to get in and kill her and the baby.

The patient was disoriented for time, place, and person. She stated that she had been in the hospital for seven days (really one day) and that her baby was three weeks old. She gave the year as 1920. There were extreme discrepancies in memory, particularly for recent events. Formal mental examination could not be completed on admission. Patient had no insight into her condition. The patient was extremely ill, emaciated, undernourished and underdeveloped. No cyanosis, jaundice, or edema were present. Pulse was of very poor volume, irregular, and of low tension. Blood pressure was 105/80. The breasts were full of milk, but there was no tenderness or evidence of any infection. She showed extreme tenderness on pressure over the lower abdomen. The uterus could be felt halfway between the umbilicus and symphysis pubis. Vaginal examination revealed retention of placental fragments which had an extremely foul odor when removed. Neurologic examination was completely negative. P.M.N. 88 per cent. W.B.C. 16,240. R.B.C. 4,620,000. Hemoglobin 85 per cent. Urine showed a trace of albumin in three examinations. No indican. No acetone. Blood chemistry was normal. Blood culture was reported negative. Fluids were given and free elimination was induced. Following this she showed improvement. The temperature, however, was of the typical septic variety. In the evening it was 101° or 102°, falling, to 97.4° in the morning. The lochial discharges cleared up at the end of two weeks and the uterus subinvoluted. She began to gain in weight. The patient continued to act very apprehensive, often wandering about the ward in the middle of the night. Three weeks after admission she cleared up entirely, and after an appropriate period of convalescence she was discharged, recovered. Final diagnosis was Toxic Psychosis, postpuerperal in origin. Retained secundinae.

This psychosis developed during the postpuerperal period and infection and retention of placental products and lack of involution of the uterus played a definite role. Following pituitrin administration, careful stimulation, and general medical treatment, she made a rapid recovery.

In many cases the puerperal period may precipitate psychoses, especially when there is evidence in the patient's personality make-up of either manic-depressive or schizophrenic tendencies. The former has led to the term "puerperal mania" which is, of course, only for descriptive use. Many cases should be definitely classified as toxic psychoses and a careful study of the cause of the toxemia and its removal is indicated. We agree with Saunders that while the puerperal state does not produce any special type of psychoses it is a new and specific experience with many chances of maladaptation. Associated with it are factors and features which affect the patient's inner adjustment to a new situation or a specific recurrent situation, which must be met with failure or success in an additional or hitherto unknown task. Efforts at prevention or alleviation may be enhanced by a closer analysis of the individual factors in each case making for maladaptation and by attention to the stresses of the new or specific experience which serve as a precipitating factor.

Psychosis with Somatic Disease; Lobar Pneumonia. A. B. Age 50. Admitted November 10, 1923. Discharged January 1, 1924. The patient was picked up by the police. He was unable to give an account of himself. One week previous to admission the patient became hallucinatory, hearing voices speaking to him. He began to hold conversations with invisible people and was unable to give any coherent account of his surroundings to his relatives. At other times he complained of pain in his side and of feeling sick and chilly. His talk continued to be irrelevant and rambling. He became confused and on one occasion wandered out of the house in his night clothes. He was brought home by a friend who happened to be passing. Following a similar episode, he was picked up by the police and sent to the hospital. The patient lies quietly in bed, with his eyes closed. He has the appearance of being acutely sick. Speech is extremely irrelevant and incoherent. He gives the impression of trying hard to focus his attention on the questions asked. He complained of intense headaches and pain in the right side. Patient said he was not sad or afraid and felt that he had been treated well. Hallucinations were present, particularly in the auditory field. He heard voices speaking to him and calling to him through the open windows. He imagined at times that his son (who is dead) was talking to him and was coming to visit him. He denied visual hallucinations. Patient was disoriented for time, place, and person. He gave the year as 1921, and imagined that he was in Spain (left Spain two years previously). He spoke to the doctor as to a former acquaintance. Remote memory was fairly good but recent memory was extremely hazy for events happening during the past day. Retention was poor. Poor calculation and general information. He had good insight into his condition, saying that he was sick and needed treatment. Oral temperature was 103°. Respiration 45. Pulse 120. He frequently coughed, producing the characteristic prune juice sputum. Slight cyanosis was present. He showed evidence of consolidation of the right lower lobe and middle lobe on the right side. There was increase in tactile fremitus over this area and in vocal fremitus. Dual percussion note. Characteristic tubular breathing, subcrepitant rales and bronchophony were noted. Sputum showed pneumococcus of type IV. X-ray examination later showed consolidation of the right lower and middle lobes. Blood culture was negative. Urine was negative, W.B.C. 18,200. 89 per cent P.M.N. The patient remained critically ill for one week when his temperature fell by lysis and was finally normal at the end of the second week. His delirium gradually cleared up and he was normal mentally the second week after admission.

He responded to treatment, mainly large fluid intake, measures to promote elimination, expectorants, and fresh air. No sedatives were given. After convalescent care for three weeks the patient was discharged recovered, the final diagnosis being psychosis with somatic disease, pneumonia. The modern treatment of pneumonia with the sulfa drugs or penicillin plus the liberal use of oxygen inhalations will prevent most of these reactions.

Such a case is rather unusual in psychopathic hospitals since pneumonia, early in its course, is not apt to have severe enough mental symptoms to justify admission. Transitory delirious states are prominent, particularly in children.

Psychosis with Somatic Disease; Uremia. D. H. Admitted February 12, 1923. Discharged May 13, 1923. Age 62. History of previous nephritis. Convulsions with prolonged period of delirium. Improvement following treatment. Patient came into the hospital complaining of swelling in his feet and legs. Two weeks before admission he caught cold after having been exposed to inclement weather. He began to cough, said he felt ill all over, and had a bad taste in his mouth. Later he began to complain of intense headaches and pain in his back and in his chest.

He first noticed the swelling on February 3 when he was unable to put his shoes on. The swelling gradually got worse and extended to his legs, ankles and external genitalia. On February 8, he began to vomit and continued to do so up to the time of his admission to the hospital. He also noticed that previous to admission he passed less urine than when well, although he drank the same amount of water. There was marked constipation and visual difficulties developed. The patient had been dizzy and had a constant, intense, dull headache. The night before admission he had two convulsions, his wife stating that he was unconscious for an hour. The patient had the usual childhood diseases. He has had frequent attacks of quinsy during the past 15 years. There has been a tendency to nocturia with urination five to six times each night. Five years ago he had a period of acute Bright's disease following a sore throat. He had characteristic symptoms and passed bloody urine at this time. After a three months' stay in the hospital, he was said to have made a complete recovery.

Mother died of Bright's disease. One brother died of diabetes. Three brothers and five sisters living and well. No history on any malignancy in the family. The patient was stuporous at the time of examination and it was difficult to arouse him. When aroused he complained of intense headaches and of seeing dark spots before his eyes. His talk was irrelevant and incoherent. He misidentified the examiner as a previous acquaintance, considering himself at home and stated that he would have to begin work soon. Patient showed emotional instability. He expressed the feeling that he would "never get well," and that nothing could be done for his terrific headache. He had no persecutory ideas. Visual hallucinations were present, particularly at night when he often complained of seeing geese and other birds flying about the ward. Auditory hallucinations were denied. Patient was very confused and completely disoriented for time, place, and person, to such an extent that routine mental examination could not be completed. Physical examination was of interest. The patient showed extensive edema of the legs, ankles, and external genitalia. Ascites in a moderate degree was also present. Blood pressure was 210/140. Heart was enlarged and R.C.D. measured 4 × 12 cm. Eyegrounds showed typical albuminuric retinitis. Urea N. 98. Creatinine 4.8. Chlorides 480. Urine showed a heavy cloud of albumin. Specific gravity showed very little variation from 1.010. Phenolphthalein output 6 per cent first hour and 10 per cent second hour. Treatment in this case consisted of prompt venesection of 600 cc. of blood following which convulsions ceased. He was given a nephritic salt free diet, careful nursing, sweats, and hot packs, and careful elimination. Progressive improvement, both mental and physical, occurred, permitting his discharge from the hospital after five months' stay. Since this time he has been reporting to the Out-Patient Clinic and following advice concerning avoidance of overexertion and diet. He has, thereby, safeguarded himself as much as possible against a return of his illness.

Psychosis with Somatic Disease; Chronic Osteomyelitis Left Humerus. T. B. Age 21. Admitted August 5, 1923. Discharged February 3, 1924.

The patient was referred from a nearby hospital Surgical Service, October 17, 1922. His chief complaint was pain and swelling in the left arm. The history stated that while he was in a moving picture show, four days previous, severe pains had started in his left arm. This continued until the following day and the severity of the pain increased. When admitted to the hospital he had a temperature of 102°. The diagnosis was acute osteomyelitis and immediate operation was advised and performed. His left arm was incised for about four inches. The periosteum was found swollen but not perforated. Upon incision, a large amount of thick foul-smelling pus came out under increased pressure. The cortex was opened to the medullary cavity and pus evacuated. Carrel tubes were inserted. His condition was good following the operation. Temperature went down to normal in two days. Following this, the boy became delirious and his temperature again went up to 103°. On operation, pus was found just above the elbow. Blood cultures were repeatedly negative. X-ray, on October 27, showed no evidence of bone change in the left humerus.

On November 6, 1922, the x-ray showed that the entire length of the left humerus was involved by acute osteomyelitis. The principal lesion was in the upper half. The evidence of involvement lower down was chiefly a separation of the periosteum. On November 21, 1922, the x-ray showed the entire left humerus involved—especially the distal end of the bone. There was also a very extensive defect involving the middle third and a pathologic fracture at the surgical neck, and for a considerable distance below this point the bone was a mere shell. On January 4, 1923, the x-ray showed there was no evidence of limitation of the infection. There had been, since the last study, a pathologic fracture in the middle third. There was also formation of an extensive sequestrum about the upper portion of the bone. On February 3, 1923, examination of the pus showed hemolytic staphylococcus aureus. At this time the staff psychiatrist discovered that the patient was in a stuporous condition. There was marked retardation and greatly diminished reaction to pain stimulation. The stupor is associated in the patient's mind with death. The diagnosis was Toxic Psychosis. The boy was discharged from the hospital August 2, 1923, improved. Three days later he began to complain that people were talking about him. He said that they frequently pinched him on the arm and had caused his "trouble." He heard voices calling him "bad names." He felt that they were following him in order to kill him. He saw God and angels. He said that he was still under the influence of the anesthetics given to him in the hospital. He complained of intense headaches, and was nauseated and vomited. Since the onset he has lost about 20 pounds and become emaciated. He had periods of insomnia and agitation and was admitted to the Psychopathic Hospital, August 5, 1923.

Personal history and family history were relatively unimportant. Patient was very talkative and at times violent. He was destructive and frequently tore up the sheets of his bed, or attacked other patients without provocation. At times he would lose himself wandering through the lavatory and on the ward. He appeared dazed and confused. His speech was flighty and irrelevant. He spoke rapidly about the operating room, ether, electrical feelings, waves of electricity in the air, people pinching his arm, or trying to kill him. It was impossible to hold his attention and his conversation was apparently related to his previous surgical experiences. Patient was extremely apprehensive, irritable, and tense. He had persecutory ideas. He felt that his friends had harmed him; called him "bad names," and pinched him on the arm causing the formation of more pus. He threatened to commit violence if this continued. Hallucinations were present both in the auditory and visual fields. He heard voices talking to him, particularly those of the doctors who had previously treated him. They told him that there was no hope for him and that he would never get much better. The voices at other times cursed him. He saw angels about the ward with haloes over their heads. Frequently saw God. Also heard God talking to him. He continued to have delusions that he was under some "electrical spell" which was cast on him by his friends. The patient was completely oriented for time, place, and person. However, at first he did not realize that he had been changed from one department in the hospital to another and showed very little interest in his surroundings. There were extreme defects of memory for recent events. When he coöperated, memory for remote events was fair. Coöperation could not be obtained for calculation or general information. He had some insight into his condition. He said it was serious and was caused by his arm. He maintained, however, that "mistreatment" was responsible for his trouble. The course in the hospital was very interesting. X-ray, August 8, 1923, revealed a large sequestrum 6″ long and an osteomyelitis of the entire left shaft of the humerus with several draining sinuses. Under general anesthesia the sequestrum was removed and much pus was evacuated. Drainage was established. Following this the patient improved progressively, gained in weight, and responded to tonic routine. On August 13, 1923, the patient appeared normal mentally for the first time and was discharged to the Out-Patient Clinic. He was finally discharged February 2, 1924. Since this time he has reported to both the Neuropsychiatric and Surgical Clinics and his condition was reported satisfactory.

This patient was presented at conferences when he was first admitted to the ward and there was a difference of opinion. It was equally divided, half of the consultants maintaining that it was a definite case of dementia precox, the remainder giving a good prognosis and placing the patient in the toxic group of psychoses. The silliness of the patient, the type of delusions, ideas of reference and influence, and hallucinatory episodes suggested a schizophrenic process. His personality make-up and previous excellent adjustment along with the definite findings of somatic disease were against this belief. In general, the practice of placing patients in the more benign group of psychoses, thereby indicating active treatment procedures, is the best to follow.

Psychosis with Somatic Disease; Pernicious Anemia; Posterolateral Sclerosis. M. B. White. Age 53. Admitted July 13, 1923. Died July 17, 1923. Complaints: Anemia. Constant yelling at night. The patient had been treated by various physicians for anemia since September, 1922, but without improvement. For the past three months she had been growing progressively weaker. She was constantly agitated at night, confused, delusional, and felt that she was abused by those about her.

Her physical condition had been very serious. Edema over both hands and ankles developed. Normal birth and development. She was a graduate nurse. Personality make-up was normal. Always a hard worker.

Family history essentially negative. The patient was very agitated. Talk was irrelevant and incoherent. At times she coöperated poorly and was very antagonistic especially toward the nurses. Marked affective lability was present. She was paranoid in her attitude and imagined that everyone was trying to annoy her. Both visual and auditory hallucinations were present. Patient was disoriented for time, place, and person. There were marked defects in memory. Retention, general information, speech, and writing, etc., could not be determined owing to the serious physical condition of the patient. The patient showed characteristic findings of pernicious anemia with typical lemon-colored skin and sclera. Blood findings were those of pernicious anemia. 780,000 R.B.C. 2,800 W.B.C. 14 per cent hemoglobin. Very marked difference in shape, size, and straining properties of R.B.C. Few nucleated R.B.C. seen. Systolic murmur over the apex. Splotches over the hands. She had a definite Babinski ankle and patellar clonus with increased reflexes on the left side. Sensory loss in both legs. There was also loss of vibration sense and sense of position. Patient was admitted in a state of collapse. She grew progressively worse and did not respond to treatment including transfusions of 400 cc. blood. Death occurred one week after admission following the development of bronchopneumonia.

Treatment of pernicious anemia by modern methods greatly alters the prognosis of patients with posterolateral sclerosis and with mental changes secondary to pernicious anemia. The basic treatment is the same as that for other forms of pernicious anemia, and consists of liver extract plus generous administration of the other vitamin elements. Recent work has shown that vitamin B_{12} produces very spectacular results in patients with lateral sclerosis and patients showing the mental symptoms which sometimes accompany it. In addition, we believe that the patient should receive a high-protein diet, plus general supportive measures. For further details for management of cases of pernicious anemia the student is referred to standard works on medicine.

Unfortunately our knowledge and understanding of exhaustion, its registration in the systems and tissues of the body, and its mental expression is very limited. During the war, one of us, in his capacity as consultant, repeatedly urged that a team of research workers, consisting of a psychiatrist, a psychologist, a neurophysiologist, a neurochemist, and a metabolist be sent to the front to study the effects and possible registration of acute exhaustion which was very common. Unfortunately military exigencies prevented the carrying out of the plan. A group of psychiatrists were sent to ETO but did not arrive until hostilities were over. These exhaustion reactions were transient, for either the basically sound body and personality quickly rebounds or else in less well-integrated personalities there is an aftermath of psychoneurotic symptoms. It is regrettable that the opportunity for careful study was missed, since these cases occurred in considerable number on the active battle fronts, while they may be seen only very rarely in civilian life.

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CHAPTER 5

THE AFFECTIVE REACTION TYPES

The affective disorders are psychiatric reactions which are grouped together because the primary and principal symptomatic display is found in the fields of emotion, and clinically there is a domination of thinking and behavior by the emotional processes. Emil Kraepelin first described the emotional disturbances as a group under the name of "manic-depressive psychosis." Kraepelin felt this group of disorders to be a definite disease with a hereditary and constitutional basis. In modern psychiatry many patients are observed with various types of mild disturbances of either a depressive or euphoric symptomatology which do not exactly fit the original description of Kraepelin and which are obviously due to psychogenic causes. In war periods and in civilian life there are many examples of benign affective reactions closely related to devastating emotional experiences.

It would seem wise and profitable to postpone placing the affective disturbances at the static level of a well-defined clinical entity. The body of our knowledge, somatic and psychogenic, is far from completion. At this writing these emotional disturbances are grouped together for purposes of discussion but it will be obvious that the authors consider the group a type of behavior due to certain psychogenic disturbances rather than a well-defined disease entity.

Incidence. The exact incidence of the affective disturbance is not known because many of them are so mild that they are cared for by the general practitioner and the majority of those seeking psychiatric aid are cared for on an out-patient level. Public mental hospitals contain approximately 40,000 individuals classified as suffering from manic-depressive psychosis with an annual admission rate in excess of 11,000. Statistics state that the affective disorders occur more frequently in females than in males and are more common in city dwellers than in country folk, but inasmuch as the true incidence of the disorder is not known it seems unwise to draw such far reaching conclusions. It is accurate to say that of the hospitalized patients more of them are females than males and more of them lived in an urban environment.

Etiology. Most authors would agree that the symptoms of an affective disturbance are manifestations of the patient's attempt to cope with distressful situations on a psychologic and physiologic basis. In some instances the psychologic forces are the predominant ones and in others the physiologic forces seem to be in the ascendancy but in all carefully studied cases both factors may be discovered. A long discussion as to which is primary and which is secondary seems fruitless in that each augments the other. It may be said that the psychologic pictures are much more persistent and recurrent and appear much the same in all cases while the physiologic changes vary a great deal among patients. In the authors' opinion the psychogenic factors are basic and the physical changes, when present, merely add to the ego load which the individual must carry. Vogt, Kraepelin, Reese, and others have shown a marked familial tendency in their patients with manic-depressive reactions. They all state the etiology rests on a constitutional basis with its roots in inheritance. The psychosis often appears in individuals who have predispositions that have been fairly well delineated. Pollock, Malzberg, and Fuller state "There appears to be therefore a familial basis for the development of mental disorders in many cases, though the underlying laws of their manner of transmission are not yet understood." The above-mentioned statistical studies have been carefully done and the authors do not doubt their authenticity for the cases upon which the studies were performed. It must be pointed out, however, that these studies were performed on small segments of patients in institutions and have no validity for the large numbers of milder reactions that are not in mental institutions and in many instances are not even seen by psychiatric specialists. Similar remarks apply to the reports which demonstrate that persons of the so-called broad or pyknic habitus with a so-called extroverted personality pattern have a predisposition to manic-depressive states. The authors would like to point out that while these traits do occur in many of the manic-depressive patients there are also many patients suffering from these reactions who have neither the extroverted personality type nor the broad habitus.

Psychopathology. In his original descriptions of the manic-depressive disease, Kraepelin commented on the frequency of dispositional deviations in individuals who developed frank manic-depressive reactions. In our experience at least 24 per cent of the patients have had some type of up and down or cyclothymic personality pattern. Most commonly in his prepsychotic make-up the manic depressive is a so-called extrovert. This extroversion is in itself not in any sense abnormal but included in it is the potentiality that the individual might develop a manic-depressive psychosis. These predominantly extroverted individuals are usually sociable, energetic, bright, and cheerful with a strong tendency to go into action or to carry out their ideas and urges. They are usually neither reflective nor thoughtful and they are tremendously stimulated by persons about them. Clinical experience would seem to justify the assumption that when some unknown factor, which may be contained in the inheritance, or may be in the circumstances of the environment, or may be perhaps contained in earlier inhibitory reactions, is added to the extroverted temperament, the individual may develop a rather clear-cut manic-depressive psychosis. In the manic predisposition there is a definite exaggeration of the extroverted qualities conveyed by our emotions, the vivacities, the buoyancy and sprightliness with a dynamic push of energy and thinking. The thinking is usually distractible, quick, and often ideas are expressed which show poor judgment because the individual has not stopped to think over his remark. These individuals easily and rapidly rationalize their mistakes. Other individuals with this disorder have what is known as the syntonic personality make-up, the so-called up-and-down type of individual. At one pole they are extremely emotional, mercurial and extroverted. At the other extreme they are blue, pessimistic, readily discouraged and worry a great deal, often being overconscientious and dreading the future. In a beginning attempt to understand the basic personality features we find that the manic phase is often the after-thought of or a compensation for feelings of inferiority. These feelings may be engendered by bodily defects or inadequacies, or these feelings may be based on pure psychopathologic experiences and difficulties due to earlier adjustments with their environment. Thus, a weak, undersized, awkward, unathletic college professor who was disappointed in love occupied himself during his recurrent manic phases with boastful performances of what he considered to be great feats of strength and agility.

White presents one aspect of the psychopathology, stating that the patient instead of turning within himself tries to escape difficulty by "flight into reality." The great activity of the manic can be best understood as a defense mechanism. The patient appears by his constant activity to be covering every possible avenue of approach which might by any possibility touch a sore point or complex and so he rushes wildly from this possible source of danger to that, meanwhile keeping up a stream of diverting activity. He is at once running away from his conflict into reality and trying to adequately defend every possible approach. In studying manic-depressive projections one will discover that they often refer to or reanimate longed-for situations of the past or present, the memories of which have been repressed. So, in this sense, the manic reaction is an ambivalent one, the patient rushing into reality on the one hand as an escape from his conflicts, but on the other hand developing under the cloak of his hyperactivity and flight of ideas a wish-fulfilling drama in which the forbidden thoughts come to expression. White states further, "The manic-depressive psychosis is seen, therefore, not to be characterized so much by the nature of the difficulty with which the patient has to deal as by the way in which he deals with it. This method I have described as a "flight into reality," which is the characteristic of the manic phase, while the failure to deal adequately with the difficulty is manifested by the depression of the depressive phase. In depression the defenses have been broken down and the patient is overwhelmed by a sense of his moral turpitude (self-accusatory delusion)."

Freud stresses an analogy between normal grief and mourning and pathologic depression, the chief difference being that in pathologic melancholia the loss of the love object is unconscious. "In mourning the attempts to distract the libido from the lost object are made in the unconscious. In pathological depression the conflict of love and hate, in which the one seeks to maintain the other—to break off the libidinal objectives, takes place in its same mental system. But in mourning the road to consciousness is open, whilst in melancholia due to a concatenation of factors that invoke repression this path is closed. It is only after the conflict has taken its repressive turn that the repressed enters consciousness in that form which descriptive psychiatry has considered the disease itself, but which psychoanalysis has proven a restitution attempt on an oral narcissistic basis." In his later productions Freud pictures depressions or melancholia as a conflict between the ego and the superego. In enlarging on this concept Oberndorf stated, "The superego has taken possession of the entire sadism of the individual, rages against the helpless ego, which acknowledges its guilt and submits to punishment." Psychoanalysts have given much attention to the psychopathology of the affective disorders, and have provided us with the most logical explanations to date. According to analytic concept a mild depression or so-called "neurotic depression" represents the reactions of a patient to an environment which refuses adequate emotional satisfactions. The illness represents the attempt of the patient to force some object or person in the environment to satisfy these basic needs. The more severe states or so-called "psychotic depressions" represent an accentuation of the above picture in which the patient feels that there has been a complete failure of the environment to provide the needed emotional supply and the psychosis is the patient's attempt to distort the environment so that these needs are supplied on a psychologic level. In the psychotic states the patient takes his hostility toward the environment or the "frustrating objects" which will not satisfy his needs and turns this hostility upon himself. Thus depressions result when certain persons find their surroundings unable to supply their basic needs for love and self-esteem. The situation may be one in which anybody would feel some loss of self-esteem, such as loss of money, loss of job, some failure in personal or professional relationships, or the loss of some loved person. There are cases in which success produced a similar feeling. Fenichel describes it, "Paradoxically, even experiences that for a normal person would mean an increase in self-esteem, may precipitate a depression, if the success frightens the patient, as a threat of punishment or retaliation, or as an imposition for further tasks, thus augmenting his need for supply." Fenichel calls a neurotic depression a warning. The person failing to find satisfaction from that situation in which he finds himself, develops some hostility toward the frustrating object, and some feelings of guilt or retaliation. At this stage, however, he clearly distinguishes that which is within himself and that which is the external world, and such depressions are often called reactive depressions, both the patient and the physician realizing that he is reacting to something in his environment. In more severe states the hostility may be greater or the environment is less satisfactory, and the patient regresses to an earlier phase in his development (see Chapter 1) in which there is no clear distinction between himself and his environment. As a result he begins to distort the environment, and all the hostility which was originally directed to objects about him, because they refused to satisfy his needs, is now introjected or turned upon himself, and he goes through the sequence of: "You don't satisfy me—I hate you"; "You don't satisfy me—I hate me"; "I don't satisfy me—I hate myself." This leads to suicidal preoccupations, ideas of self-depreciation and self-condemnation, the patient, having lost the clear distinction between that which is him and that which is the world about him, is said to be in a psychotic state. It is in this state that the patient will attempt to punish himself, and become suicidal in his reaction to his original frustrations and loss of esteem. In his zeal to punish himself and also satisfy the hostile urges originally directed toward the environment, the patient usually succeeds in making the persons around him miserable. By his groanings, moanings, and general agitation he reduces the family to a state of turmoil and disorganization that gives at least some satisfaction to his original externally directed hostile urges. The reason some patients fail to find satisfaction in the environment about them and react with depressive symptoms, while other patients in similar situations develop compulsion neuroses, has been variously defined. Older works would suggest that these patients have constitutional or hereditary predisposition to manic-depressive disease. Further information in this sphere would indicate, however, that the environmental situation which precipitates the illness is, as a rule, in some manner either directly or symbolically suggestive of some earlier experience, which was associated with a great deal of guilt feeling. The re-enactment of this situation in the immediate environment, arouses the above-mentioned frustration and hostility in the patient, and at the same time sets up old reactions of guilt. This tends to aid the patient in introjecting his hostility and thus brings about the feelings of guilt, self-punishment, etc., previously mentioned.

The manic phase has been less thoroughly studied, probably because manic reactions are much less common than the depressive phases. As the converse of stating that the depressive phase is due to the sadism of the super-ego becoming predominant, one might say that the manic phase is due to the temporary overthrowing of the supervision of the ego, and of the free satisfaction of id impulses. In the manic phase this superficial appearance of having overcome the dictates of the super-ego is misleading. While it is true that psychologically the manic achieves many of the satisfactions denied him at the onset of the depressive state, it is also true that the patient still has all of the old rules, taboos, and other elements that went into the building of his super-ego. These factors still function, although they may function on an unconscious level, and he has exactly the same frustrations and difficulties that he had preceding and during his depressive phase. Instead of reacting to them with hostility, in the manic phase the patient is reacting to them or denying them by overcompensation. Fenichel has stated it best: "The exaggerated manner of all manic expressions does not give the impression of genuine freedom. Actually the analysis of a mania shows the patient's fears of his super-ego, as a rule are not entirely overcome. Unconsciously they are still effective and the patient suffers in mania under the same complexes that he did in the depressive state, but he succeeds in applying against them the defense mechanism of denial by overcompensation. The cramped nature of the manifestations of mania is due to the fact that they are of a reaction formation type, but they serve the purpose of denying opposite attitudes. The mania is not a genuine freedom from depression, but cramped denial of dependency."

One of the major objections to a predominantly psychologic explanation of the cause of the manic-depressive or affective disorders is in the fact that in some cases there is a definite periodicity to the attacks, and in others there is a definite circular quality, patients alternating between manic or depressive states. Some authors believe these cycles and recurrences are explained in some manner by biologic rhythms, common in other types of illness. It has been demonstrated, however, that psychologic rhythms are as well known and as ancient as the history of man. Ancient writings are full of pagan festivals followed by pagan rites of expiation, and these have their modern Christian counterparts in the Mardi Gras preceding Lent, and in a lesser form, in the student binge, following the stressful situation of the final weeks in medical school. It would seem likely that the biologic rhythm has its counterpart in the psychologic functioning of certain patients, in that overreaction in either the depressive or manic sphere must bring about its compensation before that person finally levels off to what we interpret as normal emotional activity. These cases need much more detailed study before one can be dogmatic about them, but at least the evidence supporting the psychologic explanation of the periodicity and rhythmicity of onset of these disorders is as great as that supporting the biologic explanation of emotional fluctuation.

Certain of the biologic features found in the affective disturbances should be mentioned.

The results of biochemical and physiologic studies have been inconclusive. Many variations from normal in the physiochemical state of the body have been recorded. Most of these, however, can probably be explained as due to autonomic unbalance engendered by the anxiety and tension accompanying this disorder.

MacFarland and Goldstein have made a careful study of the biochemical states and report: "There appears in general to be evidence of a tendency for the manic depressive and melancholia to be defective in their sugar tolerance, for the manic to have a slightly increased blood calcium and for the lipoid values to be rather high in manic depressive. The disturbed carbohydrate and lipoid metabolisms are, perhaps the most striking findings." Other authors have reported disturbances in the basal metabolic rate, the detection of albuminuria, disturbances in pulse rate, blood count and so forth in the manic-depressive disorder. All of these findings are inconstant for patients with the same type of disorder, and, as previously stated, are best understood as the body's response to the tension and anxiety accompanying the mental symptoms. Rothchild and Malamud have noted an increase or decrease emptying time of the G.I. tract which suggests a most logical explanation in the impair-

Table 7

Lange	*Wexberg*	*Benon*	*Meyer*	*Gillespie*	*Harrowes*
(*a*) Endogenous melancholia.	(*a*) Cycloid group.	(*a*) Depression with delusional formation.	(*a*) Constitutional depressive group. Appears in those of pessimistic temperament and there is often anxiety. Often recover but tend to recur.	(*a*) Reactive depressions. Prominence of psychogenic factors. Thinking difficulty, thought centered on affective condition, reduction in motor activity, sense of effort, more depression than anxiety, environment is blamed. Occurs in quiet, shy, sensitive, worrisome personalities.	(*a*) Reactive depressions. Becomes depressed because of etiological life situation and continues to react to it in the psychosis. Depression, lack of concentration, and interest, loss of thought capacity, increased sense of effort, headache, forgetfulness.
(*b*) Psychogenic depression.	(*b*) Schizoid group.	(*b*) Depression without delusion.	(*b*) True melancholia ("unjustified depression"). Insomnia, precordial pain, self-depression and guilt ideas, inability, indecision, retardation. Later, delusions, hallucinations, fear for self and family, suicidal impulses, loss of feeling, stupor. May recover but tends to pass into presenile depression with hypochondriacal delusions, shallow affect and peevishness.	(*b*) Autonomous depressions. Self-accusation, often remorse. No variation in depth of affect in response to intercurrent stimuli. Heredity worse than in reactive type.	(*b*) Autogenous depressions. More complete personality reaction, much "guilt" and self-accusation and the affect embraces and involves much more of the total personality of the individual.
(*c*) Psychically produced melancholia.	(*c*) Constitutional group.	(*c*) Depressive stupor.	(*c*) Neurasthenic malaise. Prolonged course. There is dissatisfaction with the performance in life either referred to self or due to pressure of bad luck or as a hypochondriacal handicap. Often passes on to schizophrenia or paranoid types.	(*c*) Hypochondriacal-involutional. Personality similar to reactive group. Chiefly marked by "flatness" or impoverishment of affect and psychic activity.	(*c*) Recurrent depressions. Much like the autogenous but notably recurrent with guilt, self-accusation, hypochondriasis, agitation. In the prepsychotic personality there is apprehension and worrying and even in early life equivalent fatigue reactions.

(*d*) Reactive melancholia.	(*d*) Cycloid-schizoid group.		(*d*) Depressive delirium. Massive fear often stimulating suicide. Nihilistic ideas.		(*d*) Psychoneurotic depressions. Included here are certain of the anxiety and obsessive compulsive reactions in which there was genuine depression; the anxiety type is the more important and in addition to various shades of anxiety, inquietude, anxiété, angoisse (an acute syndrome with pallor, sweating, tachycardia and fear of imminent death), there is apt to be "some personality indications of psychopathy," definite evidence of neuropathy (enuresis, etc.); prepsychotic anxiety attacks or similar phenomena (sweatings, dyspneas, panics); a topical depression of the nature of appreciation of a more or less genuine failure in life; sex trauma; unreality feelings; and notably a subjective depression greater than the objective."
	(*e*) Involutional group.		(*e*) Catatonic melancholia. Occurs sometimes acutely with hallucinatory commands to "be good," with simple acts symbolic of penance, humility and abasement often becoming stereotyped. May be a schizophrenic-paranoid episode.		(*c*) Depressions with aversions. Here, is to be observed an averse, "offish" reaction, a placing of the blame upon the environment. It is not a shrinking away from the traumatic factor as in the reactives, but "it is more of a turning away," there is no retardation, self-accusation, or guilt, but there may be agitation. (*f*) Involutional types.

ment of autonomic function. Endocrine therapy and studies on endocrine levels in the manic-depressive states have resulted in very inconclusive evidence, some indicating that there is a definite disturbance in the endocrine function, particularly those relative to the gonadal function, while others indicate no change whatsoever. Most carefully studied series reveal that the endocrine therapy with the use of presently available preparations is without benefit in patients suffering from manic-depressive disease. The authors are fully aware, however, of certain articles in the literature that are not in keeping with this statement. Further investigations along these lines are necessary but we believe that the investigation should be along the line of study of the various hormone levels in the blood stream of the patient during and between manic-depressive attacks rather than making assumptions based on the results of treating patients with endocrine preparations. The facts.are that any type of treatment carried out long enough in a manic-depressive patient will appear to be of therapeutic result because these patients tend to recover spontaneously in 6 to 18 months.

Pathology. In spite of many detailed and careful postmortem series no definite somatic or neuropathology has ever been described in a manic-depressive disorder. Large series of patients reported generally show that the individuals are of rather vigorous and dynamic build in keeping with their broad or pyknic habitus. Many patients, however, show no somatic pathology of any type except that ascribable to the condition precipitating or bringing about their death. However, the work of Nolan Lewis will tend to indict, particularly cardiocirculatory pathology.

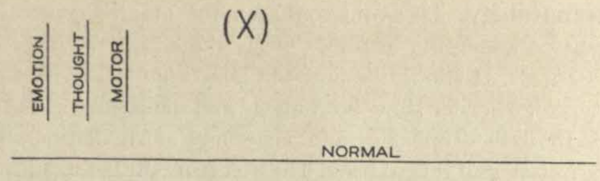
In summary it may then be said that certain types of cases usually referred to as classic manic-depressive psychoses are from an etiologic point of view mixed disorders. Abundant evidence indicates a deep-seated constitutional physiochemical predisposition to these illnesses. This either with or without environmentally precipitating circumstances may produce a manic-depressive psychosis. In these patients there is no definite correlation between psychopathology and current life events, the psychopathology being deep seated in terms of faulty personality integration. In these patients psychotherapy proves to be of little benefit and the shock therapies are indicated. The second and larger group are those in which each psychotic episode is preceded by definite environmental difficulties of a psychopathologic sort. In both, the symptoms are those of depression with the need for self-punishment manifested by suicidal preoccupation, suicidal attempts, and ideas of self-depreciation and self-condemnation. This point of view has been well expressed by Abraham and summarized well by Hendricks. In these depressive patients psychotherapy is of much greater value than the shock therapies, although in some cases the shock therapy seems to bring about at least a temporary remission of the depressed episode. This latter group of patients is probably more properly referred to as reactive depression but this term has become rather vague and is much abused in American psychiatry.

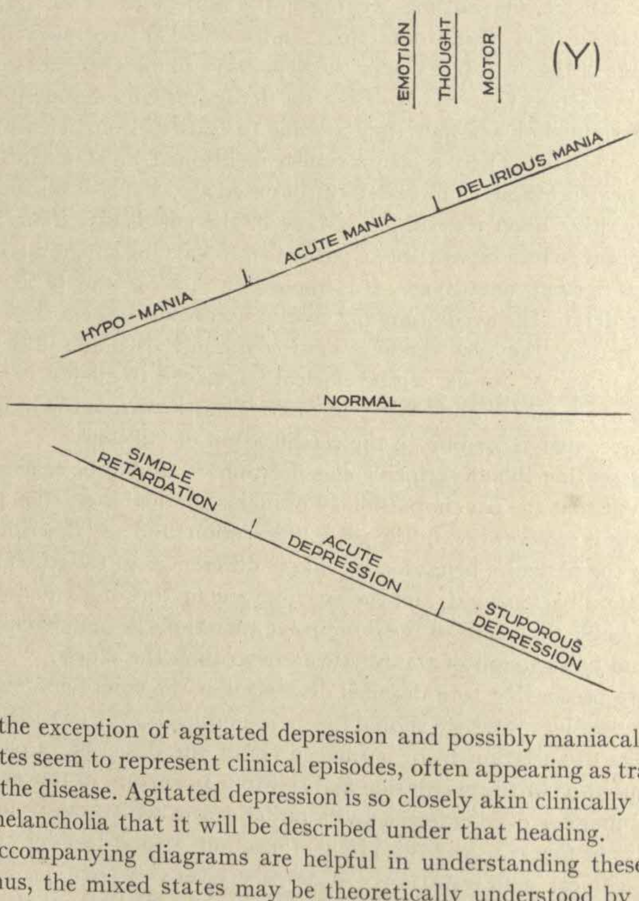
Symptomatology. To avoid confusion the manic-depressive psychosis will be discussed under the headings of (1) the *manic reactions* and (2) the *depressive reactions.* It should be borne in mind that many persons suffering from this type of disorder show both manic and depressive symptoms; sometimes in circumscribed episodes and sometimes as oscillations between the stages of excitation and retardation. The literature on the manic phase is surprisingly scanty when one considers the number of individuals incapacitated by manic attacks. The authors writing on the subject are in fair agreement as to the classification, symptomatology and method of treatment during the acute stage of the disorder. Under the depressive phase there are some differences of opinion as to whether or not the depressed episodes are psychogenically determined or whether they are due to constitutional elements within the patient himself. There is, as previously mentioned, an abundance of literature on the depressions. The classifications used are almost as numerous as the authors writing upon the subject. Many of the subclassifications presented would appear to be a separation of patients into varying subgroups because of variations in symptomatology. It is impossible to present all of these classifications in detail. The accompanying chart presents six of them. These six were selected because they are the ones most commonly used and in the authors' opinion any one of the six can be efficiently adapted to clinical practice. For purposes of simplicity and clarity in description the discussion of depression will be presented according to the classification of Gillespie.

In presenting this descriptive classification, it should be remembered by the student that the psychopathology bringing about this reaction pattern in the patient is as described in the preceding section, and any descriptive variations in the patient's behavior are due to differences in the patient's education, cultural background, and the precipitating factors of his illness. It is also quite probable that some of the descriptive variations lie in differences in education and background of the physician describing the illness.

Before proceeding to a detailed discussion of the symptomatology of the manic-depressive states we should like to re-emphasize the fact that there are all degrees of variation from normal in either the direction of overactivity and stimulation or to retardation and slowing. In certain instances there is a peculiar mingling of overactive and retarded states which can be understood only in terms that consider this group of reactions as one disorder with widely varying clinical manifestations. A retrospective viewpoint of Kraepelin's mixed states of manic-depressive makes it exceedingly likely that he was led astray by his devotion to classification. He listed the following main groups;

1. Maniacal stupor.
2. Agitated depression.
3. Unproductive mania.
4. Depressive mania.
5. Depression with flight.
6. Akinetic mania.





With the exception of agitated depression and possibly maniacal stupor, mixed states seem to represent clinical episodes, often appearing as transition phases of the disease. Agitated depression is so closely akin clinically to involutional melancholia that it will be described under that heading.

The accompanying diagrams are helpful in understanding these mixed states. Thus, the mixed states may be theoretically understood by making various transpositions of the unit symptoms, emotion (E), ideation (I), and

Maniacal Stupor	*Agitated Depression*	*Unproductive Mania*	*Depressive Mania*	*Depression with Flight*	*Akinetic Mania*
E	I M	E M	M	I	E I
I M	E	I	E I	E M	M

motor activity (M), above and below a normal emotional-ideational-motor line. The possibilities are almost endless, but for practical purposes the diagram pictures those that are likely to be encountered in actual practice. For example, in maniacal stupor there is emotional exaltation, slowing of thought and decreased motor activity. In pure mania all factors are well above the "normal E.I.M. line" and in pure depression the reverse is true.

Our remarks concerning the periodicity and rhythmical nature of this disorder under psychopathology do much to explain the many possibilities of admixture of symptoms. It should again be stressed that the illness represents the patient's attempts to solve his problem, and these attempts will vary with the patient's background, cultural level, etc. In some cases, pure retardation is adequate; in others, the emotional and intellectual depression must be accompanied by motor overactivities to make a satisfactory solution for the patient. All these variations are illustrated descriptively and diagrammatically, above. They all have their explanation in psychopathology and represent the patient's best solution to the difficulty in which he finds himself.

An excellent example of mixed case showing both manic and depressive swings is found in the following history from a true case of so-called "circular insanity." Illustrating depressive (retardation) and acute manic phases, the combination constituting true circular insanity:

Elizabeth T. is now in her forty-seventh year.

FAMILY HISTORY. The family comes of sturdy New England stock, though the paternal grandfather, who died of chronic Bright's disease, was erratic and violent-tempered; the mother is "rather emotional" but capable; the father, who was phlegmatic and normal, died of cerebral hemorrhage at 75; a brother and sister are sound in mind and body, and a son of the patient is bright, ambitious, and healthy.

PERSONAL HISTORY. Elizabeth was graduated from high school at 18, and was married to a successful, considerate man at 21. During girlhood and early maturity she is described as capable, considerate and economical; quick-tempered but as ready to forgive; social, fond of outdoors but inclined to be an extremist in pleasure and in work (manic temperament). Married life was agreeable and interesting, traveling for some time on the continent and living for five years in South Africa. Physically, there is an indefinite childhood record of "chronic heart trouble"; frequent attacks of "malaria" from 14 to 19; at 31 coincident with an eight months' miscarriage, severe scarlet fever occurred, complicated by septic infection and leaving as sequels, arteriosclerosis and chronic nephritis; a head trauma followed by unconsciousness for an hour, four months before the onset of the psychosis.

HISTORY OF PRESENT ILLNESS. Mrs. T's. mental disease began in 1915. A portion of the husband's careful account may be advantageously quoted. "In the beginning my wife became 'blue' and remained so for about three days. During the following nine months the melancholia manifested itself monthly and its duration was lengthened from several days to two or three weeks. There were no suicidal attempts but she wished to die. She refused to see anyone; to speak, eat, or dress; and slept only a few hours daily. She feared I would lose my position and was economical to a fault (depressed quiescent periods). During the next nine months there were active periods, preceding the depressions, lasting about three weeks (first sign of circular tendency) and followed by normal intervals of a week each. During the excitement she was exhilarated, sang and danced, spent money recklessly, made unreasonable demands and resented any advice or restraint" (manic phase with emotional exhilaration and ideational and psychomotor drive).

Mrs. T. was admitted to the hospital and for the 7 yrs. of observation the psychosis has been running a true circular course of alternating depression (retardation) and mania, the phases averaging a duration of 22 and 23 days respectively.

Physical Examination. During the depressed phase the patient looks older than her actual years; in mania she appears younger. There is beginning arcus senilis and moderate vessel sclerosis. The urine usually contains a small amount of albumin and a few hyaline casts. A spindle-celled sarcoma has been removed from the broad ligament. Repeated examinations of the nerve and endocrine systems, blood smear and Wassermann, kidney function, blood chemistry, and basal metabolism, have all been repeatedly within normal limits. There is, however, a striking relationship between blood pressure and emotional reaction. The average systolic pressure during a depression is about 175 mm. of Hg while during mania it is about 200. Just before the onset of excitement there is a sharp rise of 40 points and often more, and retardation is ushered in by a corresponding decline. Not only this case which has been exhaustively studied but, also, the observation of others, makes it seem not unlikely that the current impression that the blood pressure is low in mania and high in melancholia is unfounded.

Mental Examination. During the depressive phase, Mrs. T. is inactive, her posture and facial expression portray dejection, bent shoulders, wrinkled brow and drooping mouth. Her speech is never voluntary and her replies are almost monosyllabic. It is apparently an effort for her to move with ordinary rapidity (psychomotor retardation). She answers questions slowly and after an interval of time (retardation) in simple language (poverty of ideas) and seems relieved to be left alone. She feels "very miserable" and "different," "can't be interested" (emotional depression); "don't want to move," "can't do things with head or body" (inadequacy); head is "clouded," "thick," and "confused," "mind blank," "stoppage in thinking" (possibly slight clouding of consciousness); "bowels feel horrid," "brain lacks nourishment" (indication of somatic delusional formation). There is no evidence of self-accusation. The patient is oriented; memory, retention and recall, counting and calculation, reading and recall, attention and capacity, current knowledge are impaired, not intrinsically, but dependent on the psychic retardation. She cannot recall the details of the excited phase, but is fairly clear about the events of her prepsychotic life. There is some degree of insight, "I am sick," "very sick," "my head," "all over," "my stomach and abdomen." With the lifting of the depression, it is as if a new individual had come into being. In the words of the patient—"it drops like a curtain and rises like a curtain." We now see a woman who is a whirlwind of misdirected energy, seemingly at the mercy of variable and rapidly shifting emotions. She passes quickly about the ward, laughing, singing, dancing, attempting to interfere with the care of other patients (psychomotor activity). Any attempt to curb her happy activity calls forth a torrent of coarse abuse, threats, and even actual violence. Often like a mischievous child, she may change suddenly, as when the nurses seek to dissuade her, and then she may try to choke them or kick, bite and scratch like an infuriated animal (mercurial affect). Not infrequently she will break the dishes on her tray and smash panes of glass (uncontrolled motor activity). If left alone in her room it is, in a few minutes, in a state of chaotic disorder, crudely drawn sketches soon adorn the walls and the patient has arrayed herself in the most fantastic fashion. For instance, "she has a head dress made of grapefruit rinds, feathers and red cord from a torn bathrobe. Arms, legs, pelvis and bust are bound with red rags and feet with white" (self decoration). She is singing, dancing, and shouting, "I'm a copper-colored maiden." Often the patient is nude. Untidiness is the rule. If not prevented, she will void urine on the floor and smear it on the walls (recessive tendencies). There is distractibility of attention and the speech reveals the widest range of pathologic ideational overactivity. The constant stream of words shows the influence of external and internal associations, sound association, neologistic (new work) formation and flight of ideas. In five minutes the patient introduced 18 widely divergent subjects and was then further away from the goal idea than at the beginning. Usually, the productions are interlarded with indescribable profanity and obscenity. Occasionally, speech may become incomprehensible and a jumble of hoarse, indistinguishable sounds indicates that a crescendo of incoherence has been reached. "Sweetheart and lieber schatz, also your old fuzzy son of a yard, I mean field, come to me, a violent lunatic calls, balls, she is suffering from lunatic or chronic, crazy, catitus. Will you and . . . come to a Hallowe'en party dinner and dance at 5:30 to 9:30 P.M. There will be at least 100 crazy loons and 100 nurses, also your friends from the east, also your former enemies. Mr. B. has fallen. Louis will bring a zither player, a glass of wine, some angel cake and you—music that I heard with you was more than music—bread that I broke with you was more than bread . . . Meta" (flight of ideas, sound association, distractibility, neologistic formation)—numerous plans are spoken of, trips, lavish entertainments, dinners, publication of books, newspapers, etc. While the usual mood is one of boisterous happiness, the most casual incident serves to change the picture and in the facies, ideational and motor activity may be witnessed a veritable kaleidoscope of emotions—euphoria, exhilaration, exaltation, boastfulness, pride, irritability, anger, hate, murderous rage. The patient is grandiose, "owns the world," and designs "wonderful" complicated and impossible inventions. There is, occasionally, a curious hallucinatory (possibly illusional) delusional trend with a basis of erotic fancies. There are snakes in the room, the physicians force her to take aphrodisiacs, strange men come to the room at night to seduce her. During the manic phase eroticism is to the fore. Consider the difference in the associations; when depressed the patient was presented with the word stimulus, "love," she answered after a four-second interval "your family"; during an excitement she replied immediately, "If X would come up here tonight, I'd uncover quickly enough." Relatively, the sensorium is clearer during the active state. "My mind is clearer." Rarely is orientation disturbed. Memory is good. Events of early life and of the whole psychosis are easily recalled. For instance, from excitement to excitement, she readily remembers the word caricatures with which she described those who come into contact with her, but during melancholia there is no recollection of them. When the hyperactivity does not preclude testing—retention and recall, counting and calculation, reading and recall, school, general and current knowledge are not seriously impaired. There is also voluminous writing, blotted and untidy, capitalized, underscored, and illustrated by crude drawings. Insight is very defective and does not approach the judgment of the depression.

Attitude and General Behavior. In the manic phase of her psychosis this woman expresses enormous energy, distraction of attention, volubility, singing, rhyming, sound associations, profanity, obscenity, incoherence, neologistic expressions or the formation of new words that have a meaning only for the patient.

In the depressed phases, there is often very limited and difficult speech due to retardation or slowing of thought; poverty of thought evidenced by repetition of the same formula of words, mutism.

Affect and Mood. The case presented shows the mercurial-like alterations of mood in acute mania. Perhaps the basic state is euphoria and gaiety but the most casual incident serves to change the picture and there is to be witnessed a veritable kaleidoscope of emotions—exhilaration, exaltation, boastfulness, pride, irritability, anger, hate, murderous rage.

In the depression there is a less flexible emotional scale but the range is fairly wide from feelings of inadequacy and subjective lack of interest to acute mental agony. Dejection, misery, and every degree of unhappiness may be witnessed. Suicide is a real danger. Fear is a common admixture of the depression.

MENTAL TREND—CONTENT OF THOUGHT—MANY VARIETIES OF DELUSIONAL FORMATION. They usually correspond to the prevailing mood, and the case presented did not show in any great degree the frequently occurring grandiose delusions of acute mania—generally inconstant and shifting and wish-fulfilling.

In the depression the delusions are more tenacious and with a melancholic content (ideas of personal wrong-doing, "unpardonable sin," unworthiness, self-accusations, etc.). In this type case neither of these symptoms is present, but depressed patients accuse themselves of the greatest variety of wrong-doing, often referred to sex practices earlier in life and, they devise and picture for themselves the most ingeniously cruel punishments and tortures. Hypochondriacal and somatic delusions ("no stomach," "intestines stuffed up," "organs rotted," "brains shriveling," etc.) are fairly frequent. Illusions are not uncommon. In mania they seem to be related to the severe distractibility of attention and in the depressed phase to the depressed—apprehensive affect.

SENSORIUM, MENTAL GRASP, AND CAPACITY. In the case presentation the patient during the depressed phase showed slight clouding of consciousness and felt confused. Generally, the orientation, memory, retention and recall, attention and capacity and current knowledge are not intrinsically involved, but if there is impairment, it is dependent upon the psychic retardation.

In mania, from time to time, the orientation suffers and the consciousness is befogged but again there is scarcely an intrinsic disturbance.

INSIGHT. Insight is usually present in some degree during the illness, though it is quite faulty. It is relatively better during the depressed phase. Then there is apt to be a subjective feeling of illness and, often a fairly good comprehension of the manic phase. Patients who have recovered may display remarkable insight and judgment concerning the nature and even details of the attack.

THE MANIC REACTIONS

The manic states are usually divided into hypomania, acute mania and hypermania or delirious mania according to the severity of the symptoms, but of course there are innumerable gradations.

HYPOMANIA

Hypomania is manifested by a push of speech and motor activity, productions are usually coherent and relevant but greatly increased in verbal quantity and often tinged with facetiousness. Patients usually boastful, optimistic and aggressive. Attempts to curb their enthusiasm or dilute their expansive plans bring outbursts of irritability. In spite of this behavior many of these patients get along outside of an institution but are a source of annoyance to their families and fellow workers. In our experience we have seen a few patients who have successfully launched business enterprises, charitable organizations, or who have sold large quantities of material during the early stage of their hypomanic reaction. Some of these patients subside into a chronic, irritable state with frequent complaints directed toward an environment which refuses to coöperate in their schemes and withholds recognition of their "true worth." Many develop paranoid tendencies because of the world's failure to accept them at their own evaluation. Still others develop chronic, diffuse, frequently shifting, hypochondriacal complaints. Many patients of this group show a hypomanic swing as a precursor to an acute manic episode.

Patient is a 29-year-old, white male, who came to the hospital because he was quarreling with relief agencies, the local employment bureau, the county judge, and his family. Patient comes from a broken home and the physician and the court officials were impressed by the fact that whenever the parents were brought together to discuss the boy's case, they used the occasion to renew their fighting so that nothing constructive could be accomplished through them. The boy had poliomyelitis at the age of seven with resultant deformity of the right leg which necessitated repeated orthopedic manipulations. He compensated for this deformity by a tremendous drive toward excellence in swimming and riding. As a further compensation he had been remarkably sexually promiscuous since the age of 14. He was always quarrelsome and aggressive with his parents, siblings and school officials. He was involved in repeated street brawls. He married at 21, and divorced his wife one year later. Upon coming to the hospital he was overactive, aggressive and antagonistic toward all hospital routine. He was definitely expansive concerning his ability to work and earn, and rationalized his failure to succeed in terms of his deformity. He refused to coöperate in plans for the future which included work within his capacity but always insisted upon trying for positions and making plans that were far beyond his reach. He arrived at a fair degree of insight as to the compensatory nature of his trouble, but left the hospital after two months with a full determination to succeed on a large scale.

He was not seen for three years during which time he traveled about the country from one odd job to another eking out a bare existence. He returned to the hospital voluntarily, showing the same expansivity, irritability, and push of speech and motor activity displayed on his previous admission. He was also beginning to formulate some vague paranoid ideas centering about the social agency, his father, and the local county officials. He still felt that he could attain great success if given the opportunity and blamed his lack of opportunities upon the poor coöperation of the people in his home community. He was discharged at his own insistence but his condition at the time of his discharge was essentially the same as when first admitted. Since discharge he has continued his restless wandering about the country.

ACUTE MANIA

These individuals require hospitalization as a protection to themselves and the community. They are overactive, combative, and destructive. They frequently disrobe and are quite erotic. If allowed to be at large in the community they often indulge in alcoholic and sexual excesses, unwise investments and large purchases of useless objects are frequently made in terms of their expansivity. They frequently destroy their clothing and furniture, often using portions of the debris to decorate and festoon themselves and their rooms. Feeding becomes a serious problem because they are too busy to eat and the food is usually utilized for smearing themselves and their surroundings. Tube feeding is often necessary to combat inanition and dehydration. Sleep is held in abeyance by the hyperactivity and chemosedation in large doses is usually ineffective. Continuous neutral baths and cold wet packs are necessary to control overactivity and to induce sleep. The stream of thought is definitely accelerated, the patients complain of a crowding of ideas and a pressure of thought. They are distractible, there is an almost continuous stream of conversation and the progression of thought shows rapid shifts from one topic to another. These shifts are in terms of events in their environment distracting them from their original theme. This rapid shifting is called flight of ideas. These patients are usually obscene, profane, and erotic. They laugh uproariously at their own jokes. The mood is one of definite elation. When thwarted in their activity they respond with sudden and spectacular outbursts of rage, but they can be easily distracted into a good-humored vein. There is a progressive weight loss due to the hyperactivity and inattention to feeding. The excretory systems function normally but the excreta are passed promiscuously about the ward and are often used for decoration of themselves or the walls of their room. Sleep is postponed in terms of their hyperactivity, but if put to sleep by prolonged, continuous baths or by a large dose of some quick-acting hypnotic such as paraldehyde they will often sleep two to five hours. Some of these patients will go for several days without sleep in spite of prolonged hydrotherapy and large doses of chemosedation. Hallucinations and firmly held delusions are uncommon. When they occur they are usually of an expansive wish-fulfilling type. The patients are hyperoriented and within a few hours will have an unusually detailed knowledge of their fellow patients, ward personnel and the general policy of the institution. Their criticism of the institution, its management, and its personnel are offered freely, frequently, and in great detail. Elaborate schemes for reorganization and rebuilding are tendered almost daily. The patient's grasp of general information, memory, retention, etc., are well preserved, but examination of these systems is difficult because the patient is continually distracted from his task to some casual but more interesting environmental activity. Insight is often present to the degree that the patient realizes he is overactive, stimulated and the patient may state flatly that he is "a manic."

The following is a fairly typical example of an acute manic episode:

Patient is a 25-year-old, white female, who came to town in an airplane, registered at the best hotel, ran up very large bills, drank excessively, and was taken to jail following an argument during which she became very profane and abusive. Upon admission she was overactive, elated, and erotic. She would disrobe, destroy her clothing, and break windows at the slightest opportunity. She engaged in frequent temper outbursts when refused special privileges, visitors, the use of a long distance telephone, etc. She showed definite flight of ideas and distractibility. She was usually expansive and euphoric. Upon admission note she stated, "they are all perverts. I caught my husband and his mother together. Imagine that. I've got witnesses. You know I have had a lot of money. I've put out a lot of money. We are well known in ———, and I think I have a lot of sex appeal. What do you think of the body? I'm pregnant. I want to be pregnant. I almost hemorrhaged to death but that doesn't make any difference. How about you? Are you married? I'm interested." Patient spent her days in singing, yelling and swearing. She would play practical jokes on nurses and patients and then laugh uproariously. One day after breaking a window she wrote the following poem, "The sound of glass rings through the hall, the patients are in a panic, the nurses say, don't worry girls, it's just our little manic." She also wrote a large notice in red ink which she pasted on the door of her room which stated, "Doctors may now enter the ward without having their pockets searched. Nurses will be able to chart without being interrupted every five minutes and I the undersigned will not have to lose my temper every five minutes. Reason for aforesaid, I have quit smoking. P.S. (That is, cigarettes), signed A. A."

Patient was treated with prolonged tubs and packs and was kept from the other patients and away from stimuli as much as possible. In spite of this she would sleep only a few hours a week and ate very little. She began to lose weight very rapidly. She was placed on sleep therapy for 10 days. Large doses of barbital, up to 80 gr. daily, were necessary to keep her asleep. She was fed by means of a stomach tube during this interval. Upon awakening she was still definitely overactive and euphoric but was sufficiently coöperative to be at large upon the ward. She took an active interest in occupational therapy, her first work being a series of large and gaudily colored paintings which were cleverly executed but showed little attention to details. As she continued to improve this project was given up in favor of exquisitely drawn pen and ink sketches of country homes. These plans were complete with architectural drawing and detailed directions for construction and landscaping. In a short period of time she made a series of these for various physicians and nurses and their quality compared favorably with that of professional architects although she had had no training other than college art classes. The next phase was a marked interest in needlework in which she worked out conservative but original patterns. Concomitant with the improvement of her occupational therapy, her sleep, appetite, and ward conduct improved until she was discharged 105 days after admission.

At the time of her discharge she had a fair understanding of the events leading up to the present difficulty. They may be summarized as follows. The patient is the oldest of three children. Her mother died when the patient was five. Her father was a wealthy oil promoter and the patient was raised in fashionable boarding schools and spent her summers with her father in a hotel which he owned. The father died when the patient was 18. He left her a large fortune. In 1932 she was engaged to be married and just prior to the wedding her fiance was murdered. Within a few days of his death, the patient's brother died during a drinking bout. His death was attributed to suicide, but the patient and many of his friends believed he was murdered. Following this there was a period of depression. This depressed episode required 5 months' hospitalization. She got along well for the next nine months and then married a person who was both intellectually and socially her inferior. The present illness developed four months after marriage and following a period of marital discord due to the husband's lack of push and his inability to emancipate from his mother.

Following discharge from the hospital the patient separated from her husband and there have been no recurrences to date.

HYPERMANIA OR "DELIRIOUS" MANIA

This term is used to describe those patients who are so tremendously stimulated and distracted that they are unable to talk coherently or complete any initiated motor act before they are distracted to the succeeding one. There is such a frenzy of activity that they lose contact with their environment and physical exhaustion must be combated to prevent collapse with complicating cardiac and respiratory difficulties.

In "Brainstorm," a novel by Carlton Brown, there are interesting examples of emotional reaction thinking and behavior in a transition stage between hypomania and acute mania. (From "Brainstorm," by Carlton Brown, New York, Farrar and Rinehart, Inc. Copyright, 1944, by Carlton Brown.)

Pages 82–83: Now that Dina had slammed the door and cut the telephone wires and yanked out the letter box as far as I was concerned, I made a comicotragic Valentine that was intended to show the course of my love for her.

First I drew a large heart with frilled edges, like a Valentine candy box, its sides shaded to indicate a rounded surface, and a jagged crack down the center of it. In the middle I wrote in flossy lettering, "Finest Grade Plush Heart." Encircling the heart, now inside and now outside its borders, I drew a highway whose route was meant to represent my course in and out of her affections. At the highways entrance I placed a little figure (me) running eagerly toward the arrow marking the highway's ingress, at which I posted the sign: "One Way. No Stops. No limit:" A little farther along, "You Take The Low Road" warned of a sharp curve which took the tourist just outside the heart's boundaries and then quickly in.

Another curve took him out again, this time to go under a "Low Bridge," and, after a considerable detour, to be welcomed back by the sign "You're In." A stretch of straight away, and he was brought up short with "STOP! (and reconsider)" (name of a song), followed quickly by "GO!" Up near the top of the road map, the highway passed through the front door of a roadstand built in the form of a woman's nude torso. This establishment bore the sign, with beckoning finger rampant: "Mimi, Fifi, Frou-frou and Fo-fum. Unfurnished wombs. Transients Only." The highway exited by the back door, outside Dina's much-travelled heart, to take a severe loop labeled "No Turn"—a reflection on the paradoxical and baffling plans of the road's architect. Then, back in, it described another loop, with the warning, "Keep Moving, Jack," and the inscription, "A Fugitive Backtracks." This loop took the voyager within tantalizing sight of "Ye Olde House by Ye Side of Ye Road," whose doormat read "Unwelcome; E. Guest, Prop.," and whose prop. stood in the door holding up a forbidding hand and saying, "You can't sleep here." (In other words, I couldn't marry conventionally, settle down in Suburbia, and be a friend of Mr. Average Man and family).

Jack kept moving, past a boarded-up building, with eyes for windows—"Yesterday's East—Closed." A little farther along stood a structure called "Stairway to the Stars," the top steps of which were broken and its side posted with an "Out of Order" sign. Directly after passing this, my little man went through a convoluted "Maze of Illusions," in which the road crossed over and under itself, and finally emerged, next to the point where he had originally entered, at the bottom of the heart, on an arrow emphatically inscribed "OUT!" When last seen, my figurine was standing forlornly next to the exit, pointing to it and saying, "This is where I came in."

The whole highway was called "Yesterama," after the Futurama at the Fair. I had been a fool to try to travel it any more, after the accidents of the previous trips. But it certainly wasn't a rut, and there had been some mighty pretty country in through there.

Pages 84–85: I bought a small suitcase of airplane luggage and labeled it, in blue pencil, "Allovernautchingatallnightlongbag"—a conglomerate of the song title, "All Over Nothing at All," and the words "lover," "nautch," "overnight bag," and "long," to distinguish it, I told anyone who asked, from a brief case. I filled a notebook with similar experiments, and thought that I would have no trouble finding a publisher for it. Its object, as I saw it, was to teach people, particularly children, to break loose from their semantic shackles, and its title was to be

Everybody's Grandmere. The latter word was meant to include "grandmother" (teller of fables, instructress in word play), "grammar", and "great sea" (the limitless Sargasso of language and thought, the inexhaustible womb of words). Judy was "somebody else's someday sweetheart now", but when my dreams came true, as they seemed to be doing with increasing speed, she would be my "Future-mamma"—influence of the World's Fair again. In a mural of her with which I decorated one wall of my apartment, I wrote her motto: "No, no Looie, Noli Me Entanglewanglebangleweb," a combining form of the Latin "noli me tangere" (don't touch me) and other easily distinguishable words that were intended to give the thought a more sticky complexity. I was Looie—"dot dope" of Milt Gross, and a name that, like "Moe," was shorthand in my set for any insignificant, schlemielish character."

Page 90*:* "I've been reborn since I wrote that," I said rhapsodically. A woman waiting in line beside me stepped back with a shocked expression, but the teller, without taking the matter up with the vice-president in charge of reborn depositors, soon gave me my money.

Page 91*:* I sent it to Helen by telegraph, with the message and transmittal charge deducted from the total—a figure which seemed absolutely "right" according to my numerological table. My message promised undying love and help to all three of them, and I signed it "Imrie Broun," after discarding several other pseudonyms of half-humorous intent, I.N.R.I., which I inaccurately remembered from some remote corner of my subconscious mind as I.M.R.I. Similar inaccuracies appeared in the other Scriptural expressions that came to me spontaneously and whose origin I could not understand. The last part of the name expressed my belief (again, half-humorous) that something of the spirit of Heywood Broun had passed into me (he had been converted to Catholicism after a lifetime of unbelief, and his recent death had given me a keen sense of personal loss). The whole name was a pun on the phrase "I'm reborn," and I laughed over it with the telegraph girl as I gave her the message with my true name and address appended.

Coming out of the telegraph office, I met a one-legged beggar on crutches with a tray of pencils slung around his neck. I walked up to him and looked directly into his inflamed and agonized eyes, and his misery poured into me like a hot fluid. I fished in my pockets and found only a few pennies. I gave him these apologetically and then drew out a small pad of notepaper and a stub of blue indelible pencil that I carried in my jacket pocket.

"Soon you will not need to beg any more." I said furiously. "You'll drop your crutches and walk and you won't have to hate the lousy almsgivers who salve their consciences with a cheap dime tossed into your cup. There was a palpable vibration in the air between our neared faces. I left him with the pledge of my signature in throbbing blue letters on a scrap of white paper: "I.M.R.I."

The manic episodes tend to occur in periodic attacks which last from approximately three weeks to a year or more. Patients showing a hypomanic reaction are more prone to develop a chronic state. The manic reactions tend to recur. In some patients the attacks recur at fairly regular intervals. As the patients grow older their attacks tend to become more frequent and of longer duration. The frequency of the attack varies greatly, some patients having only one or two attacks in a lifetime while others may average one a year. It is our belief that careful supervision and follow-up care during the interval can do a great deal to lessen the frequency of attacks.

The Depressive Reactions

The literature on the subject of depression abounds with studies on alterations in physiology occurring with the depressed state, and there is a great deal of discussion as to the efficiency of various chemical and endocrine preparations in the treatment of these states. These studies have been worthwhile and have contributed materially to medical knowledge. There are also numerous classifications of the depressions, some overly simplified and others making a new subgroup for each symptomatic variation. For purposes of organization and simplicity the depressions will be discussed following the outline of Gillespie under the head of (1) reactive depression, (2) autonomous depression, and (3) hypochondrical-involutional melancholia.

REACTIVE DEPRESSION

This group of depressions is usually classified under the psychoneuroses, but it is our feeling that the primary difficulty is in the sphere of affect, and for that reason they are included in this section. The prepsychotic personality is usually described as sensitive, shy, seclusive, pessimistic and worrisome. The patients feel a sense of effort in thinking, and carrying out their routine tasks. There is both objective and subjective evidence of retardation, but it is not marked. The affect is definitely depressed in terms of certain psychogenic factors. These factors may be financial worries, marital difficulties, death of a loved one, ill health, or a combination of unpleasant environmental stresses. Attempts to discuss these factors will produce definite objective signs of a depressed mood. A discussion of neutral subjects or diversion by occupational therapy will produce a rather spectacular lightening of the depression. The patients do not have hallucinations or delusions but they tend to project the cause of their depression upon certain environmental events. Suicidal preoccupation may be present, but overt suicidal attempts are rather rare in this group. The somatic symptoms include loss of appetite, decreased sex drive, sleep disturbance usually of the early morning awakening variety, a tendency to constipation, moderate weight loss and a tendency to neglect personal appearance. B.M.R. pulse rate and respiration are usually within normal limits. The sensorium is well preserved and judgment and insight usually present. Certain individuals suffering from a reactive depression show a marked preoccupation with their body and its function. The majority of these individuals first consult with their family physician because of these complaints referable to faulty organ function. Hurried diagnosis or incomplete clinical and laboratory studies frequently result in unnecessary surgery. The present interest of the surgical group in psychiatry centers about methods for detecting these reactive depressions and the psychoneuroses in order that they may be spared the embarrassment of the removal of structurally normal organs that are showing a temporary malfunction due to neurotic and affective mechanisms.

The following case is a fairly typical example of a reactive depression showing the rather deep-seated conflict pattern and prolonged history of maladjustment preceding the actual depression. It also shows that even very brief and relatively superficial psychotherapy may prove of benefit in some of these patients.

Patient is a 35-year-old dental officer, referred by the Army Consultant because he felt the patient was suffering from some type of psychosomatic disturbance. Three months prior to the initial interview the patient states he developed a virus laryngitis. He said that he was quite ill but that since recovery he has continued to feel weak, tired, has little pep or energy, and has lost interest in his work. For the past two or three weeks he has noted some stomach trouble and also he has noted some epigastric distress of the burning type for the past several years. Patient believed that he was developing gallbladder disease or a peptic ulcer, but after negative gallbladder and G. I. studies he concluded that he did not know what was the matter with him. He was afraid to report to the Medical Officer fearing that a diagnosis of psychoneurosis would be made and he would be dismissed from service. He stated that he believed that psychoneurotic symptoms were imaginary and he was sure that his feelings were real. The symptoms of abdominal pain have all been exaggerated by the episode of feeling weak, tired and losing interest in his work. Patient also stated that he has been unable to work as rapidly or as efficiently as before, and that he had lost confidence in his ability to care for the more difficult patients. This had become so marked that at times he would refer the difficult patients to some of his co-workers rather than try to manage them himself. He states this was silly because he believes actually that he is the most competent dentist in the group in which he works. Some of the patient's initial resistance to psychotherapy was overcome by explaining to him the mechanism of autonomic physiology and the mode of production of G.I. pain from tension and anxiety. It was also pointed out to him that neither the consultant nor the psychiatrist had used the term imaginary.

In reviewing the background of the development of this particular illness the following material was elicited. Patient was interviewed a total of five times at bi-weekly intervals. Patient expressed great resentment and hostility towards an older brother who was in the same profession as he, but outranked him in the military services. Patient states that he feels that the older brother mistreats their father because he will not allow the father to work. The brother states that if the father is allowed to work it will reflect upon his own professional and economic status. Patient thinks this is very unfair. He also states that the older brother has always been very good to him, allowing him to go to dental school and actually paying for his education, and allowing him to get married while he was in school, and supporting both him and his wife. Following the patient's graduation the older brother took him into practice with him. He states he was very grateful for all this but at the same time bitterly resented the older brother's attitude toward him. He felt that his brother always treated him as if he were a spoiled and incompetent child. He would assign the patient only easy cases to work on in the office and would supervise his work very closely. He also disapproved of the patient's wife and wanted him to marry another girl but it is true that he allowed the patient to marry and supported the patient afterward. Patient states that this jealousy of his brother goes back to their early childhood at which time he felt the mother preferred the brother to him. This feeling was so marked that the patient actually became very antagonistic toward the mother, and still entertains very serious dislike and feelings of hatred toward her. He states that such ideas are not proper and says, "I feel like an awful heel." During the production of this material the patient would become flushed, quite agitated, perspired profusely and chain-smoked cigarettes. It was also of interest to note that the patient throughout his childhood phantasied having a baby sister. He originally stated that his hatred of his mother was because she refused to have this baby sister for him. On further inquiry it would appear that the baby sister was phantasied as a person who would give the patient her undivided love and affection, and who would in effect replace the feelings which he more appropriately should have directed toward the mother but, inasmuch, as he felt rejected by the mother, he did not feel free to express them toward her.

Patient also was disturbed somewhat in his marital relationship because he feared that his wife would die if she had a baby. She had been taken to a series of physicians some of whom told her it would be perfectly safe, but others felt that it would be very difficult and that she should avoid pregnancy. This has resulted in much fear of his wife's pregnancy on the patient's part. He has also had many phantasies of his wife's death and when she is away from the house he fears that she will have an auto accident or that he will be called from the municipal morgue and informed that his wife is dead there. He recognizes that these ideas are absurd because he is very much in love with his wife and she is very competent. He states that without his wife to lean on and love he does not know what he would do. It is also of interest to note that the patient's present episode was precipitated by receiving news that his brother had been promoted to a rank far above that of the patient. Patient was eligible for promotion but had not yet received it. He denied any jealousy toward the brother when he first mentioned this but later stated that this had caused a reopening and a reappearance of his old hostility toward the brother. Following the production of this material the patient began to feel somewhat better. He was able to work more efficiently and was getting along fairly well. He stated that he had more confidence in his ability as a dentist than at any time since he had left school. He also consulted another physician about his wife's condition and it was finally decided that she could have babies and he was planning on her becoming pregnant.

The therapy in this case consisted entirely of allowing the patient to ventilate some aggressive feelings directed toward an older brother who is definitely a father substitute, and similarly severe aggression directed toward the mother. After expressing these ideas combined with severe feelings of guilt for having them the patient felt somewhat better. He was also considerably reassured by the statement by the physician that such ideas of mixed hatred and love for the same person were not particularly unusual. He then began to understand the death wishes he had had toward his wife at certain times and felt considerably relieved and reassured about these. Because of the time factor involved no attempt was made in this case to outline the basic or fundamental reason for his hostility toward the mother and brother. The patient was merely taught to live with them more satisfactorily.

AUTONOMOUS DEPRESSION

This group usually referred to as autonomous depression, autogenous depression, endogenous depression, and so forth, contains the severe or psychotic-depressive reaction. It is our feeling that the so-called tension depressions, catathymic depressions, agitated depressions and so forth are merely symptomatic variants in terms of the patient's previous personality and experience. We find that subclassification into symptomatic minutiae offers little clinical aid, because each case must be studied individually and treatment planned according to the individual's need. If this drive for classification was applied strictly to all cases carefully studied each patient would constitute a group. The severity of the symptoms vary from simple retardation to acute depression and stupor.

Simple Retardation. Patients complain of being slowed up in thought and act. There is objective evidence of sadness and retardation. The mood is expressed as depressed, sad, or blue. These symptoms are not marked and are often replaced by expressions of being dejected, defeated, or exhausted. Patients tend to blame themselves but feel that there is no true explanation for the illness. Sensorium is clear. Biologic disturbances usually minimal and are similar to those described above. In many cases this is a transition phase to a deeper depression. The following case is a typical example of simple retardation.

A young woman, now 29 years old, well born and intelligent, had all her life severe inferiority feelings. She was the only child of parents rather well advanced in middle life when she was born. Her father retired from business when she was a child and, she recalls feelings of acute shame when other children asked what her father did. The home was materially satisfactory, but she was never encouraged to bring other youngsters into the house for play and when she did she felt that it disturbed her parents. Consequently, she was much alone and made few friends. As she became older she did not have the social advantages to which her family position entitled her, largely because her parents did not make the necessary effort. An aunt did something for her and took her away during the summer. Here again there were very few young people and very little social life. About a year ago the patient had her first and only love affair, which was abandoned because of the opposition of her parents. Following the breaking of the engagement there was a three-month period during which she felt "fine," accomplished a great deal, and was on the "top of the wave." She had, however, sufficient control of her behavior so that mental disease was not suspected by anyone. Following this, the patient entered the depressive phase.

MENTAL PICTURE. At the present time she is depressed but not to any profound degree. She is not conscious of any strong subjective feeling of sadness or melancholia, but feels defeated and dejected. This is clearly expressed in her physical manner and bearing. Her gait is hesitating and her shoulders are slumped. Life looks hopeless to her and she feels overwhelmed by her own inadequacies. Her mind feels "heavy," and while she answers questions readily enough, yet her vocabulary has become limited and often she is monosyllabic. She does not see how she can ever rally herself nor again feel satisfaction in life. She is not definitely self-accusatory but speaks of it being her own fault and more or less vaguely of "neglecting opportunities." She goes through the schedule of her daily routine without complaint but confesses that it is like "dragging a heavy weight."

Such is the picture of simple retardation. In these patients the lowering of the emotional tone is readily recognized in attitude, manner and bearing. There is little interest in the environment and there is a sense of dejection and failure. The anticipation of small affairs is overwhelmingly difficult. Thinking processes are slow. Speech is limited. Frequently there is initial retardation. Usually there is a strain of self-accusation, scarcely prominent enough to be delusional. The time reaction of motor movements is lengthened. The sensorium is clear and the environment readily apprehended. Generally speaking, the depression seems less pronounced than the psychic and motor inhibition.

Acute Depression. In this phase we have marked behavior anomalies, patients neglect their persons and present a dejected, melancholic, stooped, disheveled appearance. They take little interest in environmental happenings although they seem acutely aware of what goes on about them. Some patients will stand or sit in a markedly hypotonic position while others show motor agitation with restless pacing, wringing of the hands and picking at themselves. In some this is carried to the point of self-mutilation. Suicide is an ever-present danger and the patients often make desperate attempts to achieve self-destruction. Some individuals seem to purposefully select painful methods of suicide such as extensive self-mutilation, setting fire to themselves, or similar acts of violence. The patients are usually negativistic. The stream of mental activity is markedly slow. They complain of difficulty in thinking, spontaneous productions are almost all colored by their depressed content and these productions are markedly decreased in quantity. Psychomotor activity is sharply reduced and there is objective and subjective evidence of retardation. The affect shows a fixed mood of depression and hopelessness with appropriate biologic concomitants. There is a refusal of food necessitating forced feeding or tube feeding to insure proper nutrition. Sleep is disturbed, the patients tending to awaken around 2 or 3 A.M. Constipation is an ever-present problem. Sex drive is absent and in many instances there is a cessation of menstruation during the period of depression. Evidences of weight loss and dehydration are present if the nursing care is lax. In some instances there is a lowering of the B.M.R., and a blood pressure, and pulse, and respiration rate, that are all below normal. Patients express feelings of guilt, blame themselves for their troubles, and frequently feel that they are to blame for the troubles of the world. They often express ideas of having committed unpardonable sins and in some instances they will fix upon some minor deviation from morality indulged in many years before. Delusions of incurable disease are common. The patients often believe that various segments of their body are dead, have decayed or disappeared. Somatic hallucinations are common and auditory hallucinations of a self-condemning, depreciating type are encountered. Olfactory hallucinations of foul odors emanating from their body are sometimes expressed. Sensorium is clear, but a detailed examination is obtained only with perseverance because of the slowing and the patient's lack of interest in the test. Insight which is good during the initial phase of the illness disappears, and the patient is "certain" of his degradation and helpless predicament. The following is an example of acute depression.

A woman, 26 years old, became depressed following the death of a favorite niece from puerperal septicemia due to attempted abortion. The early history of the patient is somewhat interesting. She was of Irish, Catholic ancestry. She had only a minimum amount of public school education and then earned her living in a glove factory. The family felt that Sarah had an unfortunate disposition. She was "nervous," pessimistic, worrisome, apprehensive and over-conscientious. At the age of 18 she married a man of her own station in life, who treated her well, and they were congenial and happy. There are two noteworthy aspects in the prepsychotic history. The first is a distinct tendency to thyroid toxicity. At the age of 20, following childbirth, there appeared a fullness of the thyroid gland with exophthalmus and fatigue, restlessness and mental irritability. A little later a thyroidectomy was necessary. The second factor was a self-induced abortion which the patient performed at the age of 22, four years before the onset of her psychosis.

As has been stated the psychosis followed immediately upon the death of a niece from blood poisoning due to a bungled self-attempted abortion. It is evident from the patient's earlier productions that her consciousness was at once flooded with the, perhaps partially repressed, recollections of her own experience. The niece "appeared to her in a vision." The family blamed the patient for her death, her soul was "to be damned to hell." At the present time the patient is profoundly depressed with marked psychomotor retardation. From time to time the retardation is broken through by desperate suicidal attempts. The self-accusation continues and the patient feels that she is condemned to suffer everlasting torment. Usually it is difficult to induce even a small amount of physical activity, and at most there is an occasional short walk, practically under physical compulsion by a nurse. There are long periods of abstinence from food and tube feeding is often necessary. Thought processes are labored and spoken productions are sparse and usually monosyllabic. From time to time there is complaint of absence of bowel movements and this is probably the forerunner of somatic delusional formation. The patient is now in the fourth month of her depression.

The next case is an example of an acute depression, but shows in sharp contrast to the above, the efficiency, and ease, and treatment, of these depressions by modern treatment methods.

Patient is a 47-year-old white female, brought to the hospital following a suicidal attempt by drowning. Patient has throughout her life been a rather stable hard-working housewife who has reared a family consisting of a son and daughter now in their late teens. During her early married life the patient had had a short depressive reaction which had been treated by bed rest and nursing care by a local physician, and subsided spontaneously after approximately four months. She had then been free of symptoms until the onset of the present illness. The present difficulty appears to have been precipitated by anxiety and concern over her husband who was in the Armed Forces as a Maritime Engineer. Patient had been quite concerned and worried about him because he was stationed in a combat zone where he was in great danger and as she knew from newspaper accounts that both food and medical supplies were inadequate. Prior to her husband's induction the patient had had little responsibility concerning the management of the family finances. In recent months she had found great difficulty in budgeting her resources adequately and had become very much ashamed and embarrassed because she could not manage these finances in proper manner. She felt that she was not doing her proper duty by her husband by not keeping things in better condition at home during his absence. Her husband had considerable rank, and her income was more than adequate, but her financial difficulties were all due to the patient's poor management of her resources. A recent marriage of her daughter, the last child at home, had also caused her some concern and left her emotionally without any of her previous stable ties. In this setting the patient began to feel tired, weak and showed a loss of interest. She had consulted her family physician who after careful physical study had found no evidence of any somatic disease and so informed her. She had been placed on small doses of thyroid medication in the hope that this would give her more "pep." After taking this medication she found that she began to eat a little bit better but continued to lose weight, to have difficulty with her sleep and to show no interest in her home or friends.

With the onset of the symptoms her management of her affairs became even less efficient than before. She began to show increasing apprehension and agitation. She realized that she was again suffering from some type of nervous reaction and again blamed herself for this, feeling that she had been weak and was letting her husband down. She then developed the idea that she was a burden not only to her husband but to the community at large. In this setting the patient took a large dose of sedative, went to a nearby pier and jumped into the water. It so happened that she was observed by passers-by and was hauled from water of considerable depth. At the time of her admission the patient was very depressed, and dejected. She expressed sorrow that she had been rescued and some resentment toward the people who had pulled her from the ocean. She refused to eat and had great difficulty in sleeping. She neglected her personal appearance and would put her clothing on only after much urging by the nurses. She expressed the feeling that she was "no good," that she had sinned, that the outlook was hopeless, and that no matter what we did for her she would not improve. She also expressed the fear that she had some terrible disease, that explained her feelings and her behavior. The patient was treated with mild doses of sedation, consisting of nembutal, 0.1 gm., at bedtime. Repeated somatic examinations reveal no evidence of pathology other than a severe dehydration and some evidence of weight loss. Patient was then placed on electroshock treatment, modified by curare, three times weekly. There was no change noted until the fourth treatment, at which time she stated that she was feeling better, that she had more "pep" and that the world looked a little brighter. It was noted by the nurses at about the same time that she began to eat spontaneously, to use make-up and she asked that her dentures be brought to her that she might wear them and improve her appearance. Following six shock treatments the patient appeared to have recovered from her depressive episode. She was kept in the hospital for a few more days for observation and then returned to the office for interviews and an explanation of her symptoms and feelings. Patient was seen again six months after the conclusion of the treatment and appeared to have maintained her recovery. She had little insight as to the deeper cause of her illness but had good understanding of her reasons for suicide and the necessity for changing her attitude toward some of these things. The interesting feature in this case and rather typical of patients treated by this method was that the total time of 20 days elapsed from the time of her admission until the time of her discharge in what seemed to be a good state of remission. She was followed in the office after that but no longer required hospitalization and was able to carry on with her routine duties in the community.

A follow-up of the above case history has become necessary with this edition.

Approximately four years after the first illness, the patient reappeared at the physician's office, stating that she was again feeling depressed and suicidal and wanted help before she became too ill. She stated that approximately four weeks before this visit her husband had been killed in an explosion aboard ship. It should be stated that at the end of the war he had been released from the Navy and had returned to his civilian occupation as a sea captain. While working at his duties, there had been an explosion and fire aboard ship in which the patient's husband had lost his life, in line of duty. The patient was considerably shocked by this, and again had the lost feeling, believing that she had no one to look to for love and affection. She had moved into the home of a married daughter, hoping to find comfort there, but found that their preoccupation with their own problems made her feel like an outsider. She realized that she must build another life of her own. She was treated with four electroshock treatments and approximately seven hours of psychotherapy. This latter was directed toward making the patient see that she must learn to be more dependent upon herself for her emotional satisfaction and for her own financial and social security. She accordingly was urged to get a job, by which she could be self-supporting and encouraged to return to her own home where she could resume relationships with her former circle of friends. She agreed to do this, and at the time of this edition is again in a good remission and supporting herself in the community.

Depressive Stupor. A depressive stupor is merely a marked, severe, advanced stage or extreme form of an acute depression. The emotional reaction increases to the point of complete withdrawal from contact with the environment, the self-accusation advances by leaps and bounds, and the patient feels himself responsible for worldly calamities and often outlines special forms of punishment for himself. Plans are often made in gruesome detail in order that he may expiate his sins. As the condition progresses the patient becomes mute, sluggish and apathetic. Voluntary motions cease. The patient remains in bed, requires tube feeding and is either excreta careless or retains the contents of bladder and bowel. In a typical depressive state, the patient becomes progressively weak, vascular tone is decreased and there may be mild cyanosis of the extremities. These patients also respond promptly and rapidly to convulsion shock treatment. They require very careful nursing care during this phase or marked dehydration and inanition supervenes and the patient may die of intercurrent infection.

HYPOCHONDRIACAL-INVOLUTIONAL OR INVOLUTIONAL MELANCHOLIA

These reactions are allied with the manic-depressive psychosis or reactions and occur as a rule in later life. At present, a heterogeneous group of reactions varying from depressive syndrome to early organic state are included under this diagnosis, and have the common factor of occurring late in life, or roughly, at the time of climacteric. A detailed history will reveal that the physiologic involution has either not yet occurred or occurred many years before, but the patients are roughly in the involutional period and are for some reason usually classified together. Because the group is rather heterogeneous, the involutional psychosis will be discussed in a separate section at the end of this chapter.

Manic-depressive Reactions in Children

These reactions are rare. Kasanin reported 10 cases. Two were marked by kinetic disturbances, overactivity, and restlessness. In eight, there were frank emotional reactions but milder than in adults. In the manic phase there were mild elations, overactivity, irritability, and a push of speech; in the depressed, withdrawal, undertalkativeness, general retardation, and occasional refusal of food. The precipitating factors were quite trivial. In all likelihood it is a constitutional reaction. The prognosis is grave.

In this connection it is interesting to note that the child suicide rate in the United States is low. In 1920, only 36 children—21 boys and 15 girls between the ages of 10 and 14—committed suicide.

In Italy, over 5 per cent of all suicides took place in children under the age of 15. In Germany, from 1883 to 1905, 64 children under the age of 15 committed suicide.

Differential Diagnosis of the Manic-depressive Psychoses. When the clinical picture is clear, in mania the elation and emotional mercurialism with tremendous psychomotor drive, or in depression the melancholia and psychomotor inhibition, and when in addition there is a history of the typical prepsychotic personality with a longitudinal life section studded by recurrences —then the diagnosis can scarcely be missed. Often however, these vantage points are not at hand and diagnostic difficulties may be encountered.

Even in the manic phase, the psychosis should be readily differentiated from paresis by the examination of the blood and spinal fluid and the neurologic findings.

The distinction between manic-depressive and psychoneurosis is not always obvious. Manic-depressive is notably recurrent, and generally speaking there is less introspection. The psychoneurotic is much closer to the normal and has a far greater range and flexibility of emotional life. The cohesion with reality is tenacious and is not sacrificed. The psychoanalysts have expressed the same thought in these terms: "The greater variety and mutability of symptoms shown by the psychoneurotic, then, may be taken to indicate a greater mobility and range of the libido in its attempts to find satisfaction. His repertoire provides a number of ways to escape or circumvent the driving sense of guilt as well as a variety of reaction formations which will give secret indulgence to repressed or tabooed drives. The manic-depressive has usually but two types of reaction. He crams his guilt, his anxiety and his censored wishes into the depth of oblivion and plunges into activity that will preclude his remembering. He feels the elation of escape. But this cannot last; the imperfectly repressed devils rise again into subconscious memory, and he punishes himself with depressions, with self-destructive impulses. One might fancifully say that the manic-depressive libido can move only up and down in a straight line, while the psychoneurotic libido moves in a number of planes. Unlike the normal libido, however, it cannot move in all planes."

This might be stated more simply by paraphrasing Freud, who stated that in the psychoneurosis the conflict lies between the ego and the id and external reality is fairly differentiated and not distorted. In the psychotic depression these changes are not enough and the ego enters into conflict with reality, distorting it to suit its purposes. This change in the concept of the external world and the failure to discriminate between that which arises from within one's self and that which is of the external world is synonymous with the term psychotic state.

Finally, it must be remembered that various neurasthenic-like symptoms, often gastrointestinal or genitourinary, often with fatigue, concentration difficulties and insomnia may be actually camouflaged depressions. Usually the patient is less concerned about the somatic implication of his symptoms than he is about his inability to "carry on." Such neurasthenia may be the equivalent of a depression in an individual who has had previous clear-cut depressions. Harrowes may be quoted on this point: "Fatigue may be an equivalent for depression. Even on a still more vegetative level the longitudinal section of a case showing a frank depression may allow us to accept as equivalents, previous spells of loss of weight, of wakefulness, of gastrointestinal retardation, of indecision, morning tiredness and so on." And Meyer, "It is my impression that the really and frankly affective reactions, whenever they occur and no matter in what form (i.e. in the shape of whatever equivalents, such as dyspepsia, fatigue, insomnia) represent facts pointing to a more or less specific and clear and relatively adult problem of adjustment or problems of constitutional make-up, mainly problems of inner adjustment without any essential distortion of the personality."

Differential Diagnosis of Manic-depressive and Schizophrenia. The depressive psychoses, severe chronic manic states, and schizophrenia present a differential diagnostic problem. This is discussed in some detail in Chapter 6, The Schizophrenic Reaction Types. It may be added, however, that in the depressive states the pathology rests largely in the emotional sphere and the delusions and hallucinations, when present, have a self-punishing, self-depreciatory, and self-destructive coloring, while in schizophrenia the symptomatology is of much wider scope and involves the formal processes of thinking to a greater degree than in the affective states. In chronic mania, delusions are rare and when present have a wish-fulfilling, expansive trend.

Course and Prognosis of Manic-depressive Psychoses. Kraepelin observed that the first attack is a depression in 60 to 70 per cent of patients; two-thirds of the melancholias are followed by remission and one-third by mania and then a remission; when mania is the first manifestation, two-thirds of the cases are likewise followed by remission. The first attack is apt to occur between the ages of 15 and 25 and the average duration is from three to six months. Future attacks are often a repetition of the initial one with a distinct tendency toward greater frequency, length and severity. As life advances depressive attacks predominate. After recovery the mind and the personality are usually not damaged, unless there is the intrusion of a complicating factor like arteriosclerosis. The more "reactive" the psychosis, that is, the more its genesis is influenced by psychogenic and environmental factors, the better the outlook; the more it is constitutional and hereditarial the worse the outlook. The sounder the personality the better the chances of adjustment. When the first attack appears after 40, there is danger of periodic manic outbreaks. Contrary to general opinion, Pease did not find that hallucinosis was prognostically ominous. Gross somatic and nihilistic delusions are said to make a grave prognosis.

Nolan Lewis reviewed a group of patients, clinically manic-depressive but later exhibiting malignant schizophrenic aspects and concluded:

> What seem to be malignant destructive features in some patients are eventually dealt with in a benign and effective manner by others but, speaking generally, persistent localized feelings of depersonalization, dominating hypochondriacal ideas with bizarre delusional elaborations, outspoken hallucinations with delusional fortifications, and odd, disjointed paranoid mechanisms make for a comparatively early serious outcome. When the affect (elation or depression) is notably in excess of the schizophrenic components, one is inclined to give a favorable prognosis for the present attack, but definite schizophrenic elaborations appearing during the course of an affect disorder are unfavorable signs.
>
> While the extent of deteriorations, residuals or so-called mental "scarring" is hard to measure or to evaluate, it is quite obvious that these periodic mixed psychoses before described are characterized by a lessened ability in the patient to adjust in the intervals to his former level of mental, social and economic activity. In the majority of these patients the contrast in this respect with the purer forms of manic depressives, in our experience as clinical psychiatrists, is quite convincing. The final deterioration to a vegetative existence appears earlier and is usually more profound than in the purer forms.

One of the authors made an intensive study of the prognosis in manic-depressive psychosis: (1) The recovery rate was higher in the Jew and Irish and lower in the mixed American types. (2) With initial onset before 40 the recovery rate was higher than when it occurred later and with the onset before 30, the prognosis was better in the proportion of 7 to 3. (3) When manic phases predominated the prognosis was better. (4) The outlook in the mixed forms, agitated depressions, was somewhat better than in the other forms. (5) The majority of deaths were circulatory. (6) In the unrecovered group there was 28 per cent direct psychotic ancestry (parents) as contrasted to 8 per cent in the recovered group. (7) From the personality studies it seemed fair to draw the following conclusions: First that the possession of a personality of pure clinical type (the type which one would naturally expect to develop an affective psychosis, i.e. cycloid) did not necessarily indicate a favorable prognosis. Second, patients revealing identification and projection in marked degrees had a poorer prognosis than those who did not evidence such mechanisms. Third, predominantly oral traits in the prepsychotic personality were indicative of a poorer prognosis than predominantly anal personality characteristics. (8) While no one previously acquired disease or groups of diseases may be said to predispose to psychotic chronicity, yet, the evidence of somatic disease was more frequent in the unrecovered patients. Such factors as severe repeated infectious processes, widespread or recurrent organic disease tend to weaken the reserve force of the patient, prevent adequate compensations, and may favor the development of a morbid exhaustibility predisposing to more regressive types of reaction. (9) From the standpoint of the psychotic content the appearance of paranoid trends, hallucinosis, somatic delusions, suicidal trends and stupor were relatively unfavorable prognostically, while frank erotic reactions did not unfavorably influence the outlook. (10) From the standpoint of the somatic content of the psychoses, the cardiovascular-renal disease complex rendered the outlook for recovery less favorable.

The development of electroshock or metrazol shock treatment has greatly altered the prognosis in the depressive reactions. In our experience, the vast majority of the so-called constitutional variety of depression respond rapidly and almost spectacularly to any type of convulsive treatment. Patients with profound personality defects manifest by previous maladjustment in terms of neurotic reactions, paranoid or suspicious states, alcoholism, and so forth, do less well. In this latter group of patients prolonged psychotherapy following the convulsive shock is necessary.

Patients receiving shock therapy may receive short psychotherapy in between shock treatments if the treatments are spaced sufficiently to prevent too much impairment of recent memory. In many patients, however, the memory impairment is so severe that deeper psychotherapy must be postponed until the acute depressive symptoms have subsided. It is our policy to discuss the importance of psychotherapy following the episode with these patients and in many instances they return for an explanation of their illness in the hope that they can prevent recurrences.

Treatment of the Affective Disorders. The treatment of these disorders must be highly individualized if one is to avoid errors in either neglecting patients or in overtreating patients. There are a few general principles which will be discussed. Patients with mild depressive symptoms, the so-called "neurotic" or "reactive depressions" and mild hypomanic states can be treated satisfactorily as office or clinic patients. The treatment of choice in these cases is psychotherapy with mild support from the use of Desoxyn or similar medications in the morning and sedation for sleep. The details of both of these methods will be outlined in separate sections. In patients treated in the hospital or clinic special attention is necessary to make sure that they do not develop more severe symptoms which may result in lack of attention to nutrition, loss of sleep, and in the case of the manic in uncontrolled behavior. The Social Service Department is useful in checking with the family, interpreting the patient's illness to the family, and following his general behavior in the community. Hospitalization becomes necessary in patients with poorly controlled behavior, who begin to have severe difficulties with sleep, who do not eat properly or who have suicidal preoccupations. In our experience open ward facilities are usually adequate and commitment is rarely necessary. In patients with very severe agitated depressions or in patients with extreme manic states it may be necessary to have some type of temporary commitment to keep the patient under control. In the hospital of one of us, no committed patients are accepted and little difficulty is encountered in persuading these patients to stay, particularly if the coöperation of the family is elicited, and if the treatment is instituted promptly without prolonged delay and ambivalence about the treatment method to be used. Patients hospitalized should be carefully observed and confined only if their behavior becomes unmanageable or if they become a danger to themselves or are creating too much of a nuisance insofar as the public is concerned. Patients should be observed for evidences of mounting tension or preoccupations that warn of impending suicide.

Psychotherapy in the emotional states requires some modification from the general principles outlined in Chapter 13 on Psychotherapy. In the manic-depressive states the initial phases of psychotherapy must be in short interviews. In our experience, 20 to 30 minutes a day with the patient is preferable to an hour, two or three times a week. We believe these patients do not tolerate prolonged discussions and producing too much material in too short a period of time may result in increasing anxiety and either an increase in overactivity or an increase in the depressive symptoms. In the initial stage our psychotherapy is usually of the very short, reassuring type. We usually explain to the patient the nature of his illness, the good prognosis, and the steps necessary in the management. From that we proceed to elicit the underlying or precipitating factors and then attempt to tie these into factors in earlier experience which have conditioned the patient to this type of illness. In patients with mild symptoms the coöperation is usually excellent as they come voluntarily and want to be relieved of their symptoms. Patients in advanced manic or depressive states have usually received sufficient shock therapy by the time this latter stage of treatment is reached so that they too coöperate to deeper levels of therapy. If patients are to receive psychotherapy, and we think all should, the shock therapy must be spaced and supervised closely so that the memory defects do not become so severe as to make psychotherapy futile. Patients in the hospital require special attention in addition to the above psychotherapeutic procedures.

PROTECTION OF THE PATIENT. There are many symptoms and situations that expose the patient to danger. Suicide is an ever-present risk at every stage of depression, particularly when the patient begins to improve, and the best protection is watchful, tactful and efficient nursing service. Patients need protection against frequent visiting. Relatives and friends often argue with the manic patient and make ghastly attempts to cheer the depressed patient.[1] Patients need protection from each other. The depressed patient should never be left to the mercy of the manic, and other patients must be safeguarded against the annoying, bellicose and even homicidal attentions of the acute manic patients. The motor drive of severe mania may lead to bruises, abrasions and lacerations, and here the prolonged bath is advisable. Erotic tendencies may lead the manic patient into disgraceful behavior, or eroticism plus a spirit of mischief may dictate the insertion of foreign matter into the body orifices. Depressed patients driven by delusions or with suicidal intent may do the same. One of our patients swallowed 30 pieces of metal—screws, nails, hair-pins, corset steels, etc. Always, but particularly in severe mania and deep depression, it is important to carry out for the patient or assist him in the general hygiene and care of the body, the mouth and teeth, the skin, the hair, the nails, etc. The physician must be informed concerning the function of the bowels and bladder, particularly in depressed patients. Enemata and catheterization may be required. Manic-depressive is not an immunity against medical or surgical complications and, since the manic patient may be too busy to take account of subjective sensations or may have in a spirit of mischief cried "wolf, wolf" many times before, or the depressed patient may be too retarded or too intent on suicide to complain of pain, it behooves the physician to regard seriously every complaint of the patient, the report of the nurses and in addition to make periodical examinations.

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[1] In stupor, visitors may be stimulating and helpful.

NUTRITION. Nutrition often drops to a dangerously low level since the manic patient is often too busy to eat, while the depressed patient is too retarded, too suicidal or feels too "unworthy." He may attempt to "get by" by taking a few bits of food occasionally. Often artificial feeding is imperative. Nasal feeding is the choice. The feeding should be varied and contain not only milk and eggs, but soups, beef juices, strained vegetables, fruit juices, etc. I have had patients gain weight while being tube fed. At the time of the feeding, tonic or other needed medication may be given. Artificial feeding should not be accepted by the physician any longer than is necessary. The patient should be coaxed and tempted to eat and, at intervals, a tray should be served. An intelligent and faithful nurse is often successful in helping the patient to resume normal habits of eating.

REST, EXERCISE, PHYSIOTHERAPY, ETC. Unless a reasonable amount of sleep is obtained there is real danger of exhaustion. Hypnotic drugs are often needed, but their exhibition should be limited and to be preferred are such measures as massage,[1] warmth, hydrotherapy, packs, and particularly the neutral bath. Of these, the neutral bath (especially when consciousness is befogged or there is a great range of activity) is the method of choice. It is given at a temperature of 92° to 97° F. and may be continued for many hours. It reduces surface temperature with the retention of normal internal temperature and has a striking sedative effect. It is said that "in insomnia there is practically no single measure of treatment so valuable as the neutral bath." For tonic and other effects there may be resort to electric light baths, radiant heat applications, ultraviolet radiation, mechanical vibration, active and passive exercise. A schedule of daily activities compounded of rest periods, exercise and a selection of occupational therapy and physiotherapeutic and hydrotherapeutic treatments, may direct constructively manic overactivity and ease the burden of decision in depressions. Anita Muhl attempts to develop a controlled energy output and to have a definite reserve for emergencies. The accumulation of reserve is accomplished by "small rests and short periods of relaxation interspersed throughout the day—five to ten minutes every two hours, no matter what work the patient is doing."

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[1] In the early stages of depression, bed treatment with massage is helpful and, later on, a day in bed now and then is a relief to the patient.

DRUG THERAPY. Drug therapy is often very helpful in managing patients with mild depressive reactions. It is our practice to start these patients on Desoxyn, Dexedrine, or Benzedrine or some similar medication with a dose of 2.5 to 5.0 mgms. twice daily. The method of giving these drugs is of extreme importance in their effectiveness. Inasmuch as most depressives feel worse on awakening, the patient is instructed to place one of the tablets and a glass of water by his bed and immediately upon awakening in the morning he is to take the tablet before getting out of bed. This usually results in partially allaying the tremendous feelings of depression, inertia, and hopelessness that trouble these patients as they first get up. The second tablet is taken with lunch and usually helps tide the patient over the midday letdown. In patients with a great many symptoms of anxiety, tension, and agitation, one of the rapidly acting barbitals in a 0.1 Gm. dose is taken with any of the above medications. While these drugs may seem to be counteracting one another, in our experience the combination works very well and does not cut down the energizing and euphoric effect of the adrenergic preparation. In severely depressed states we have found the preparations to be of little or no benefit in these or much larger doses.

Sedatives and hypnotic drugs have a place in the treatment of depressive reactions. They are particularly valuable in combating the sleep disturbance from which almost all of these patients suffer. In patients with agitation, drug therapy of the sedative type is of value in cutting down the restlessness during the day. Practically every sedative drug in the pharmacopeia has been explored and recommended as being of some special benefit in the treatment of the depressions. In our experience, the drugs of the barbituric acid series have been most valuable. We do not believe that opium or opium alkaloids should be employed in depressions, but of course there is no contraindication to their use in some physical complications of the pain-producing type. In combating sleeplessness it is important that the graph of the patient's sleep patterns be obtained before a sedative regime is undertaken. The keeping of a graph and plotting the patient's sleeping and awakening time during the night for a period of three or four days will usually suffice to establish a definite rhythm of sleep. Patients with a great deal of content disturbance and a preoccupation will usually experience great difficulty in falling asleep, but once asleep, sleep fairly sound for a matter of five to seven hours. In these patients some of the more rapidly acting hypnotics, such as seconal, pentobarbital or paraldehyde will be found to be of greatest usefulness. In other patients with a great deal of anxiety and tension as a prominent feature in their depression the patient will fall asleep rather rapidly but will tend to awaken about one or two A.M. and then toss restlessly the remainder of the night. In patients of this sort, it is believed that the drugs with more prolonged action are of greater benefit. In our experience USP barbital is the most desirable drug, although Billings has recommended the use of one of the rapidly acting barbitals placed in a time bomb capsule which is constructed to dissolve in the patient's stomach just prior to the calculated time of wakefulness. The drug should be selected with the idea of reaching its peak of action at about the time the patient usually awakens.

After study of the sleep graph the sedatives prescribed should be selected with due care for the known pharmacologic action of the drug in order that the most efficient sedative action may be obtained from a minimum quantity of drug. All of these sedative drugs have a poor effect on depressions in that they increase the feeling of lethargy, fatigue and general disinterest that the patient has when first arising in the morning. Tincture of opium, or bromides in large doses, have been advocated as bringing about relief and some therapeutic results in the treatment of depressions. Our experience with these drugs is limited and we cannot see any justification for their use because of the serious complications that may attend their use. Benzedrine sulfate has been recommended for use in depressive patients. In our experience it has been of little permanent benefit. Some patients seem to receive a mild stimulative effect from it, but most of them become more irritable and complain of an increasing feeling of tension or anxiety and restlessness. We agree with Schube, Myerson and their co-workers that this drug is of no real benefit in the treatment of depressive reactions. Davidoff and Reifenstein also report similar experiences with benzedrine in the treatment of the depressive reaction. Various endocrine products have been advocated in the treatment of the depressions. The results reported vary greatly. Some of the earlier reports that patients were improved following endocrine therapy are difficult to understand because later studies on these endocrine preparations demonstrated that they were physiologically inert. Some of the other studies showing beneficial results from endocrine therapy were done with doses that were so small as to have no effect upon the vaginal mucosa. More recent studies have been controlled by changes in the vaginal smear and have in some instances been productive of good results, according to the writers reporting. Other writers using similar preparations in a similar dose and with similar control report no benefits so far as the manic-depressive symptoms and spells are concerned. A variety of drugs have been used, the more common ones are theelin, progynon-B, or amniotin, or more recently stilbestrol. In the past few years the development of male sex hormones such as testosterone and androsterone, has resulted in some reports of beneficial results from the treating of depressions in the involutional period in males with the preparation. In our hands the preparations have proven to be without value. The majority of the evidence in the literature would indicate that there are no real benefits, so far as the depression itself is concerned (from endocrine therapy). The conclusions of Ripley Shorr and Papanicolaou are rather typical of present thinking. They state, "In the group of menopausal and the post-menopausal depression studies the beneficial effect of *estrogenic* hormones is confined to the relief of vasomotor symptoms with associated improvement and feelings of well being. There was no evidence that the depressive illness as such is influenced specifically or its course shortened." Titus Harris summarizes his experience in endocrine therapy with the conclusion, "The estrogenic hormones have no place in management of psychiatric patients." It is interesting to note that Harris and Weisz, in one of their patients, administered theelin and oil in sufficient doses to induce menstruation in a sixty-nine-year-old woman, but without any noticeable effect upon the course of her depression.

SHOCK THERAPIES. Bennett first suggested the use of metrazol injection in the treatment of chronic depressive states. In recent years electroshock therapy, a form of convulsive treatment, has largely replaced metrazol as preferred method for inducing the convulsion. Convulsive therapy is considered, in most clinics, the treatment of choice in the severe depressive reactions particularly in the involutional group or in treating the manic episode. Some clinics take a more conservative view and reserve convulsive treatment for those patients who have failed to recover after prolonged treatment by the more conservative methods outlined elsewhere in this section. In our hands, convulsive therapy administered, preferably with electroshock modified by curare, has proved to be so simple, relatively safe, and so efficient, in the treatment of depression that we are reluctant to allow patients to suffer and to run the risk of suicide for any length of time after the diagnosis is confirmed. In our experience the average patient may be expected to recover or improve from his depression within four weeks from the time convulsive shock therapy is started. With properly administered curare and other safety precautions the mortality rate in our series has been only a fraction of 1 per cent. Complications in the form of fracture of the spine or long bones have been reported in many cases, but after proper curarization we have had only one fracture in the last several thousand shock treatments, and this was a fracture of a femur in a girl with a congenitally dislocated hip in which the muscle pull was at an unusual angle.

METRAZOL THERAPY. The technique of metrazol therapy is simple. Three to 4 cc. of a freshly prepared 10 per cent aqueous solution of metrazol is injected by vein as rapidly as possible. The patient should be held on a rigid examining table and the spine should be kept in dorsal flexion. The precautions are essential if the metrazol is given plain and if it is modified by curare, they become less important but are still helpful. The patient should be held firmly on the table and a mouth gag should be placed between the teeth to keep the patient from biting the lips or tongue. After the metrazol is injected, the convulsion is apparent within a few seconds. It is usually initiated by a twitch, a short tonic phase followed by a longer clonic phase and then another tonic phase. Respiration ceases and cyanosis develops. At the end of the second tonic phase, the patient usually begins to breathe deeply. If he fails to breathe spontaneously, artificial respiration and oxygen inhalation will usually establish breathing within a few seconds. Persistent convulsions are controlled by intravenous amytal administrations. We have not, in our practice, encountered a status or recurrent convulsion as a result of these treatments, but some have been recorded in the literature. Following the convulsion the patient regains consciousness within two to three minutes but in many instances they are confused, fearful, and disturbed for a period varying from a few minutes to several hours. Treatments are given two to three times per week and continued according to the clinical reaction of the patient. Cases that show no improvement after 15 to 20 reactions will probably not benefit from further treatment. In our experience, depressive patients rarely require more than four to eight shocks. If, after the first injection of metrazol, the patient fails to convulse, a second injection increasing the dose by one half to one cc. may be given immediately. The convulsive dose seems to vary greatly between patients and a given individual tends to develop a tolerance to the drug necessitating a gradual increase during the series of treatments. When used, shock therapies should supplement, and in no way replace the medical and psychotherapeutic procedures outlined.

ELECTRIC SHOCK TREATMENT. This type of treatment has several advantages over metrazol shock treatment. In the first place, no vena puncture is necessary. The principal advantage, however, is the patient's subjective sensations during these treatments. Most patients taking metrazol therapy report a sensation or aura of a sensory type which is usually quite fearful. These are commonly in the visual field, the patients describing lightning flashes and streaks of fire before their eyes. An occasional patient has an aura in the auditory sphere, hearing loud noises or explosions which many of them describe as frightening. These auras are sometimes so severe that it is difficult to get the patient to take a second treatment. These sensations are avoided with the electroshock treatment. Most patients have a short amnesia of the retrograde type and may not recall coming into the treatment room. The shock reaction seems to be instantaneous and no patients report any aura of fear of the treatment and awaken in a rather confused state.

There are several acceptable devices on the market for administering electroshock treatment. Physicians are cautioned against using homemade or untried brands of equipment. Most psychiatric centers have physicians using treatments of this type daily. The technique consists in applying skull electrodes of various types, usually 3 to 5 cm. in diameter, over the motor cortex of the brain. It is usually recommended that the electrodes be applied with electrode jelly, but it is quite important that they be applied snugly to the scalp. The resistance is then measured to make certain that the contact is adequate. The strength of the stimulus is then adjusted according to a predetermined figure calculated by estimating the voltage and amperage required and the duration of the stimulus. In some machines the amperes are variable, in others the voltage is variable and in some both may be varied. All have means of varying the time. The patient is held in a hyperextended position exactly as described for the metrazol treatment and the current is applied. The patient usually responds with a coarse or sharp jerk which is immediately followed by clonic convulsions or followed by a short period of apnea and then a clonic convulsion. At the conclusion of the clonic phase, the patient usually begins to breathe deeply and regularly, although the respiratory response is not quite as prompt or as deep following electroshock therapy as it is following the metrazol injection. Convulsive treatments should not be administered until the physician has been well trained in the method and until he is thoroughly familiar with the type of apparatus he intends to use.

CURARE MODIFICATIONS. The use of curare in the form of "Intocostrin, Squibbs," or in the form of one of the synthetics has become so safe and so satisfactory that shock therapy is not given in our clinics without the use of this medication. The dose varies with the preparation used and instruction in the particular preparation should be obtained from some person experienced in the use of the medication. The total dose is usually injected in a period of 20 to 40 seconds. The electrodes are then applied and the patient is made ready for treatment, or if metrazol is to be used, the tourniquet is applied and the dose is prepared. In a period of approximately two minutes it will be noted that the patient is developing a ptosis of the eyelids and upon request he has difficulty in lifting his head. Within a few seconds, he will be unable to lift his head from the bed unassisted, and this is the best indication that the curare has produced its maximum effect. The mouth gag is then placed in position and the shock applied. The curare effects will disappear in five to 10 minutes. Rarely, following the convulsion, the patient will obviously be struggling for air and the respiratory movements will be weak. He will also be using the accessory muscles of respiration, and contraction of the platysma is a danger signal. This is due to overcurarization and may be easily combated by injecting 1 cc. of 1 to 1,000 prostigmine, intravenously. The reversal of the curare effect by prostigmine is usually dramatic. Rarely, a patient may require a second injection of prostigmine and artificial respiration and oxygen inhalation. Since we became proficient in the use of this drug, we have had no complications that could be directly attributed to the curare. Occasional patients are given an overdose, but this seems to have no permanent or severe deleterious effect if proper attention is given to maintaining the respiratory movement until prostigmine can be administered. Ewalt and Ruskin have purposely overdosed certain cardiac patients, inducing toxic curare effects, to see what, if any, influence it has on cardiac function. No changes were produced that can be measured, either clinically or by electrocardiographic examination. At the peak of the curare effect no change in the electrocardiogram could be demonstrated. It is recommended, however, that the physician receive adequate training in the use of curare before undertaking its use in the first patient.

PROLONGED NARCOSIS THERAPY. This form of treatment has been advocated for use in mania and the schizophrenias. In our hands it has been of value in obtaining rest in excited and overactive patients who are approaching a state of exhaustion in spite of extensive hydrotherapy and chemosedation. The drugs most commonly used for production of the narcosis are sodium amytal or a mixture of sodium barbital .3 gm. and sodium phenobarbital 65 mgm. dissolved in 4 cc. of elixir of lactopepsin. In some patients we use the so-called Cloetta-Maier mixture which contains the following ingredients.

Paraldehyde	0.4864 Gm.
Amylenushydrate	0.1593.Gm.
Chloral hydrate	0.1157 Gm.
92% alcohol	0.1745 Gm.
Sodium amytal	0.0409 Gm.
Digilan	0.0330 mg.
Ephedrine-hydrochloride	2.4600 mg.

The above drugs are combined in that proportion per cubic centimeter. This concentrated solution is diluted with 10 times its volume of a solution of 5 per cent glucose and 1 per cent sodium bicarbonate just before administration. Administration is by rectum. The dose necessary to produce sleep varies from 0.15 to 0.22 cc. of the concentrated solution per kilogram of body weight.

The barbital mixture mentioned above may be given by mouth, or by rectum, and the initial dose is 8 to 12 cc.

The sodium amytal may be given by vein, by mouth, or by rectum, in doses varying from .35 to .6 gm.

Irrespective of the drug used it is repeated as often as necessary to keep the patient asleep. After 12 to 24 hours the patient will usually stabilize on a fairly regular daily dose but the dose varies tremendously from one patient to another. The patients should be kept soundly asleep. Food is supplied by means of tube feeding and elimination is maintained by catheterization and enemata when necessary. Fluids are supplied with the tube feeding but if the patient shows any evidence of dehydration additional fluids should be supplied by venoclysis or hypodermoclysis. Great care is necessary to adjust the dose to a level which will maintain sleep and yet avoid toxic complications. The patient should be kept in a quiet, dark room to encourage sleep and thus minimize the amount of drug necessary. Careful attention to oral hygiene, frequent turning and special care of the skin are necessary. Signs of cardiovascular collapse or alterations in temperature of more than 1 degree below or 2 degrees above normal are indications for termination of the treatment. We prefer the methods using barbituric acid derivatives because the treatment may be rapidly terminated with metrazol or picrotoxin in the event of complications. In rare instances the onset of convulsions may necessitate termination.

Treatment is maintained for 10 to 14 days. The patient is then moved to another ward and placed in a light, cheerful room. Attention is given to the clothing, hair, etc., so that the patient awakens in new surroundings. During the period of awakening the psychiatrist should be at hand to discuss pertinent conflict material obtained during the preliminary stage of the illness or during the period of emergence from the narcosis. A great deal of positive suggestion at this time is of definite therapeutic value. We have failed to obtain any dramatic results in the majority of cases but the rest obtained and the improvement in behavior noted after treatment make it a valuable addition to our therapeutic armamentarium.

Occupational Therapy. The value of occupational therapy may be judged from the following resolution adopted in 1913 by the American Psychiatric Association. "Diversional occupation, scientifically and systematically applied, marks the standing of a hospital, and neglected or omitted, the patients are not receiving the most modern care and treatment to which they are entitled."

Wise occupational therapy is never haphazard but is a matter of careful prescription that takes into account not only the presenting phase of the psychosis but, also, the previous personality and mode of life of the patient. It hopes to direct the activity of the manic patient into useful channels, to coördinate muscle and mind, to symbolize reality and by a certain amount of complexity to divert the depression. Emphasis should be placed on constructive projects in which the patient may learn new skills or hobbies. Allowing them to do really productive work is of greater value than rug weaving or other similar arts that may impress the patient as a waste of time. The recreational program should be closely integrated with the work in the craft shop, and adapted to the patient's individual needs.

Nursing Care and Ward Management. The effectiveness of therapy depends upon the skill of the ward staff in managing the patient during his daily routine. Special psychiatric training of the nurse is indispensable and it is only through the intelligent coöperation of the medical and nursing staff that optimum results are obtained. To carry out the previously outlined steps in treatment requires the maximum in such coöperation. Certain special features in ward management should be re-emphasized.

In the manic phase the entire nursing procedure should be planned in such a manner as to offer the maximum in protection to the patient and a minimum of stimuli. In the acute phase of the disorder patients are kept in a private room. Neutral baths and other forms of hydrotherapy are given by the same technician each day and at a time when no other patients are in the department. Meals, occupational therapy, etc., are taken in the room. An effort is made to have the same nurses, instructors, and attendants care for the patient from day to day. Visitors are excluded. By thus removing the patient's audience, minimizing his chances for conflict with the environment, and providing diverting but nonstimulating entertainment, the patient tends to be less overactive and disturbed, and in our experience this greatly minimizes the destruction of property and sharply decreases the amount of sedation necessary. Exhaustion states are infrequent in patients handled according to this plan. As the patient improves environmental stimuli are slowly increased. It is our feeling that this plan also materially shortens the manic phase of the illness.

In the depressions special nursing techniques are also indicated. The patients must be carefully protected against attempts at self-mutilation or self-destruction. The ward surroundings should be kept bright and attractive and frequent changes of pictures, flowers, clothing and rooms offer valuable diversions. Tactful efforts should be made to interest the patient in the occupational therapy, outdoor excursions, movies, music, reading, etc. The skill and tact of the nurse in approaching these subjects is very important because the patients are negativistic or feel hopeless and tend to reject any attempt to divert them from their endless melancholic ruminations.

THE SOCIAL WORKER. After recovery the Social Service Worker who has practical common sense, a rare virtue, is invaluable in completing and continuing the adjustment of the patient following his discharge from the hospital. In our experience the Social Service Department has been of great aid in the follow-up care of these patients. It is our opinion that a careful follow-up with aid in adjusting minor personal conflicts, and in certain indicated environmental manipulations, is the best prophylaxis against the recurrence of the disorder.

ANALYTIC PROCEDURES. During the acute phase of the illness the discussions by the physician should be limited to reassurance, explanation of procedure, discussion of symptoms and infrequent and cautious discussion of the conflict material evident. Detailed distributive analytic procedure or formal psychoanalysis should be limited to the interval between attacks. In all instances the discussion should be cautious and in small, readily understood sections in order that the patient may not become confused with a resultant reappearance of symptoms.

INVOLUTIONAL MELANCHOLIA

A cross section of psychiatric opinion allies involutional melancholia with manic-depressive psychosis. Nevertheless, the effect of the somatic and psychic influences of the climacteric are distinctive enough so that involutional melancholia merits separate description. Authorities agree that the diagnosis should be reserved for those instances in which the somewhat typical syndrome of involutional melancholia appears initially in either men or women at or in conjunction with the climacteric. If there have been earlier manic-depressive episodes then the diagnosis should not be made. Even with this reservation there are many psychoses appearing at the climacteric, or later, which certainly, at first glance seem unrelated but before describing them as entities, it is better to attempt to determine if some of them, at least, do not belong in the involutional groups, with clinical modifications determined by the intrusion of the prepsychotic personality traits. There is some reason, too, for believing that involutional melancholia is particularly likely to occur in rigid, meticulous and overconscientious personalities.

Etiology. Not only are the involutional psychoses more common in women than in men, the rate being about 3 to 2, but also they appear earlier. In women the age range is between 40 and 55, and in men between 50 and 65. While we cannot speak with complete authority, it seems fair to state that the somatic, chemical and psychogenic influences of this age epoch are instrumental in producing a gradual sapping of the resistance against mental disease. This would seem to be verified by the fact that the psyche has been able to withstand assault and maintain its integrity for 4 to 5 decades. If there is a flaw, it is readily found by the many liabilities, intrinsic and extrinsic of the climacteric. It is the beginning of the regressive period, and life cannot be lived over. The mistakes of the past must stand. Flexibility of youth is gone forever. In itself the period brings with it a certain amount of indecision, anxiety and apprehension. It is the time of life, too, when the individual is apt to feel the weight of numerous physical and psychogenic difficulties. On the one hand, the somatic integrity is threatened by circulatory, endocrine, pelvic and other morbidity; on the other hand, there is apt to be at this time the discouragements resulting from reverses, disappointments, deaths, family worries and so forth.

Symptomatology. It is difficult to select a typical clinical type. Perhaps the purest picture reveals a depressed-apprehensive affect, somatic delusional formation, self-accusation and physical restlessness, frequently mounting to agitation. There are often anxiety, unreality feelings, and nihilistic delusional formation. MacCurdy felt that the group of cases showing fear of impending death, of poverty and of bodily disease constitute true involutional melancholia. For the convenience of the student, a symptomatic table, which covers the average range of symptoms in involutional melancholia, is included.

In order to illustrate the range of symptomatology, a selection of actual cases is presented.

The following is a fairly typical case of involutional melancholia. Depressed-apprehensive-anxious affect. Psychomotor agitation. Depressive, self-accusatory, self-deprecatory and somatic delusional formation.

Tillie B. is in her fifty-third year. She is a cultured woman, with a good educational background and comes from sound, transplanted British stock. Her father died of apoplexy at the age of 70. In the ancestral and collateral branches of the family there is a conspicuous record of pioneering constructiveness and efficiency and an absence of constitutional, mental or nervous disorder. As a girl, Mrs. B. was healthy, but during the past four years, she has had grippe complicated by neuritis twice each winter. This continuously sapped her strength and, perhaps, had as a sequel the high blood pressure which appeared six months before the onset of the psychosis. Menses ceased at 49. It is noted that Mrs. B. was "quiet, self-sacrificing, easy to live with, conscientious, deeply religious, forgiving, had excellent judgment, was a good manager, very sociable, friends came to her with their troubles to be advised and cheered. She enjoyed quiet pleasures, played the piano well, sewed, liked afternoon teas."

Mrs. B. made an unfortunate marital venture at the age of 25. Her husband was a brilliant lawyer, but a hopeless alcoholic and drug addict. The financial uncertainty, struggle and worry over his habits have always been a tremendous strain on the patient. She bore her burden with fortitude, patience, and philosophy. Finally, her husband's behavior so changed the home atmosphere, that Mrs. B. felt the future of her two children was being imperiled and she left her husband. There were many brief separations before the final one. Since Mrs. B. had no financial assistance, she undertook to run a rooming house. During the past five years she has been unable to secure help and has continually overworked. Then followed a year of insomnia, anorexia, headache, paresthesias, decline in weight and mild depression (prodromal period).

The psychosis appeared abruptly. The patient began to moan, wring her hands and pace the floor (motor agitation); became deeply depressed and apprehensive, declaring herself "a terrible sinner" for having "divorced her husband," she had brought trouble on the whole world and should "never have been born," she should be "sent to jail," "the Lord had cast her out and life is a horrible torture," "no one should touch her as she is sinful," (self-accusation and self-deprecation). This was the beginning of the stage of agitated depressive-apprehension which has continued for 12 months. Mrs. B. was admitted to the hospital 11 months ago. Physical examination recorded the following positive findings: double scoliosis, thin, pale, poor musculature. Reflexes markedly exaggerated. Moderate arteriosclerosis with pressure fairly constant at systolic 180, diastolic 110. Anemia, 3,000,000 red cells and 70 per cent hemoglobin. Blood Wassermann negative. Urinalysis, traces of albumin, and a few granular casts. Blood chemistry, slight increase in urea nitrogen.

The psychosis is beginning to recede and recovery is now in sight. At the apex of its curve the patient was in a state of almost unending activity, restlessly squirming about in a chair or walking rapidly up and down, rubbing her hands together, pulling at her hair, pinching her neck and cheeks, biting her fingers until they bled (motor agitation). Her shoulders drooped, her face was deeply lined, so that one would have judged her age as 70, and in her eyes was an expression of unutterable woe. From time to time she would glance about in a furtive fashion and then depression would be blotted out by the signs of fear. Now and then a kind of paralysis of action was manifested, as when, for instance, she stood for half an hour with a garment in her hands, as if powerless to summon enough decision to put it on (inadequacy, perplexity, and retardation.) She would shrink away from the outstretched hand of the physician and passively resist the attention of the nurses, and upon questioning it was found that she did this because she felt unworthy to be touched (self-deprecation). Speech was scant. Insistent questioning usually brought an answer but the few brief sentences soon trailed away into a mumbling sound, which, however, needed no spoken words, to tell that sadness and dejection were always the main motifs of the dominant thought. No analysis was needed to determine the mood. A mere glance at the patient at once told the story of profound depression, always with an undercurrent of anxiety and apprehension, which frequently became strong enough to hold sway, for a time, in the affective realm. The following random selections illustrate the delusional content which is fairly typical for many of the psychoses which fall into the involutional group.

"Oh, it's terrible! Oh, what have I done! Oh, I'd better be dead" (depressive-self-accusatory). All of her family have been killed because of her wrong doing. "They killed the last one this morning! Oh, if I only could have spoken! Oh, it's terrible! They will do more!" (apprehensive-depressive-self-accusatory). "Oh, what have I done! I'm possessed. Can't I be saved? What is in store for me? (depressive-apprehensive-self-accusatory). "Not a cent left—not a cent" (poverty). When it was necessary to employ tube feeding, "I'm all stopped up—it can't get out—it won't go through—there's no room—you must not put any in" (somatic delusions). The sensorium was clear and there were no hallucinations or illusions. The patient was oriented and when coöperation could be secured, no significant memory gaps could be discovered. There was one suicidal attempt, an effort at strangulation by knotting the bed sheet about the neck. At the height of the psychosis there was no insight. With improvement came the occasional admission "perhaps they are ideas, but they seem so real." At the present time there is increasing realization of the nature of the illness.

The case is rather typical for involutional melancholia, in that there was a combination of depressed, apprehensive, anxious affect with considerable psychomotor agitation. The potential prophylactic possibilities deserve some consideration. There was a hopless life situation resultant upon the habits of the husband,which should have been adjusted sooner. It was permitted to play havoc with Mrs. B's resistance for 15 years before it was interrupted. It is as much the province of the physician to judiciously and diplomatically help to untangle such disabling social-environment problems as it is to prescribe medicine. The second factor was a somatic one. Medical intervention might have prevented eight successive attacks of influenza or at least favorably modified the unfavorable after-effects on the kidneys and circulatory system.

The following is a rather typical example of a severe involutional psychosis in a 56-year-old white female, who was brought to the hospital with the statement, "I think my family is against me," and the complaint by the informant that, "she had a nervous breakdown." They state the woman has been ill for approximately six years. During this period she has remained consistently agitated, delusional and upsetting to the whole neighborhood and to the family. Onset began in the fall of 1943, at which time she began to fear that her eldest son would be drafted. She felt that the Germans were trying to kidnap him and that they were in the local city, dropping bombs on the roof, and she would cry out and scream when any member of the family would attempt to leave the house. She would also get up in the middle of the night and want to go to church and pray. Shortly after the onset of her illness the son was drafted into the army, and unfortunately was killed in a bombing raid over Germany. The news of his death did not seem to change the delusional pattern very much, but when his body was brought back to America for burial she became very much upset about this and became much more confused and tearful. She then began to state "what is the trouble?" Then she began to believe that the neighbors were trying to do something to kill her son, and the nocturnal agitation became so marked that the family felt they would have to do something about it. They also became somewhat apprehensive that she might commit suicide. She then developed the idea that her boy would return home. She also developed some somatic delusions, feeling that her blood was dried up and that someone had injected air into her veins. The patient's background is about average. Her father was a small business man. She had a good home and went to all of the usual parties, most of which centered around a Protestant church. The patient was a rather religious person, but not rabidly so. She met her husband at 15 years of age, and got married at 17, her husband being seven years older. She used to complain that her husband had been rather abrupt and overbearing throughout their life, and this made her somewhat nervous, but that they had never considered separation or divorce. The patient's husband had always provided for the patient and the marriage has in general been a compatible one. The patient had seven children, one girl dying in 1925 of polio, and the above-mentioned boy being killed in 1944. The other children are all living and well and at home. The family describe the patient as having been a rather sober, jealous, suspicious individual, without much sense of humor. Her husband stated that when she was much younger she was quite jealous but had not been so in recent years. He feels that she is a rather quick-tempered stubborn person, tending to be a little overorderly and overlytidy and quite stingy with her money. Physical examination revealed a moderate hypertension of 150/80. No other abnormalities in the physical and neurologic status.

The laboratory studies were all within normal limits. The patient was admitted to the hospital and placed on a closed section. She was placed on a regime of high-vitamin, high-caloric intake and bedtime sedation. On completion of the physical studies she was started on subshock insulin daily and electroshock therapy three times a week. She had a total of 16 subshock insulin reactions and eight electroshock treatments, all of which were taken without difficulty. She improved a great deal on this regime and was finally transferred to an open section of the hospital. She began to gain weight, began to eat and sleep well, and was able to understand some of the precipitating elements in her illness. She was dismissed from the hospital 37 days after admission. She has continued to get along well in her home community since dismissal.

Since some degree of hypochondriacal, somatic, and nihilistic delusion formation is so common in the involutional-presenile group of psychoses, this extreme example has been presented. The student may expect to discover delusions of this type, varying from mere hypochondriacal fancies about which the patient is not more than half convinced to gross ideational distortions which are firmly believed. The genesis of these delusions has not been satisfactorily explained. They appear to be a kind of psychologic expression by overemphasis of waning physical powers. It has occurred to us that in the fact that in our daily lives we see on every side the implied association between the taking of food and living (self-preservation), there may be found a partial explanation of the frequency of the reference of these delusions to the gastrointestinal tract, since in some sense involutional melancholia is a temporary abandonment of the preservation instinct.

From the standpoint of prophylaxis, it should be emphasized that there is a mental as well as a physical aspect to the hygiene of the climacteric. Physicians who undertake the treatment of patients who are at this critical life epoch, should not only pay attention to the organic factors, but should also give advice concerning social-environmental handicaps and should penetrate the minds of the patients, at least deeply enough to discover and uproot any erroneous conception concerning the likelihood of the development of mental disease.

When no definite organic disease is found, as was the case in the instance presented, the therapy is largely symptomatic—hospital care, proper nutrition, hydrotherapy (continuous baths, hot packs) to secure motor quiet, the occasional exhibition of mild hypnotics. Later, occupation will be very useful.

The following case is not typical of involutional reactions, but is seen often enough that the student should have at least one example of this variation.

The patient is a 63-year-old white male, who was brought to the hospital for evaluation for an illness that was felt to be due to advanced hypertension, generalized arteriosclerosis with cerebral and cardiac involvement. There is a history of hypertensive heart disease of several years' duration, and the patient's confusion, motor agitation, sleeplessness, loss of appetite, loss of weight, loss of ambition, and suspicious behavior toward his former employer and toward his family were felt to be due to organic changes. It had been recommended that the patient be institutionalized and he was brought to the hospital for a final check to assuage the family's conscience before commitment was carried out. The history revealed that this person had held a rather prominent position in his community for many years. He had been a leader in all types of community activities and an active member in one of the Protestant churches. He had two grown children, both of whom were well educated and married well. He and his wife were compatible, and have gotten along well, even after the patient's illness. The patient's first difficulty began when he became short of breath on the job and noticed that he was unable to turn out the volume of work previously done. He also felt keenly the responsibility for his men, although he had held the same position for approximately 15 years. Consultation with his family physician revealed the above-mentioned hypertensive heart disease. The patient became quite preoccupied with his health and felt that death was imminent. Because of these somatic preoccupations he decided to seek retirement from his company, and this was granted. Retirement gave him more time for worrying about his physical state, and brought no alleviation of the symptoms. He was finally hospitalized, and there the impression of generalized arteriosclerosis, with cerebral involvement was made. At the time of admission the patient was extremely depressed and somewhat agitated. He was coöperative and anxious to have an examination made, but assured the physician that his case was hopeless and nothing could be done for him. The sensorium showed some defects in recent memory and occasional spotty defects in more remote memory. There was also some difficulty in retention, but this was spotty and undependable. He had preoccupations about a hernia and about cancer in his stomach, and felt that his heart condition was hopeless. There were some suicidal thoughts present, although these were not a marked part of the picture. He had great difficulty in sleeping, sleeping approximately two hours after retiring and then being unable to sleep the rest of the night. He also had difficulty with his appetite, and had lost approximately 20 pounds in weight. Cardiovascular studies revealed a blood pressure which was persistently in the neighborhood of 220/110. The heart was moderately enlarged to the left. Cardiac consultation and electrocardiogram revealed definite evidence of an old posterior wall infarct. It was felt that the patient's poor nutrition, his agitation, and poor sleep were more harmful to his cardiac status than drastic treatment would be, and therefore with some trepidation, therapy was undertaken. He was first placed on nicotinic acid and subshock insulin and after approximately ten days of this treatment was started on electroshock treatment. He received a total of nine electroshock treatments and was given 1.2 mgm. of atropine before each treatment. He was also given oxygen inhalation before, during, and after each treatment. On this management the appetite picked up and finally his somatic preoccupations disappeared. He was finally able to be dismissed, 41 days after admission, in a remarkably improved condition. His memory was still a little spotted, but his spirits were good and he felt able to return to work, or to some other type of occupation if he could not get his old job back. He arrived at some fair understanding of the nature of his illness, and it was felt that he would probably get along fine. At the time of this production, he has been gone from the hospital for approximately six months and continues to do well.

This case is included to illustrate a combination of severe cardiovascular disease and an involutional melancholia. It shows that joint management of these cases is often successful in rehabilitating these people to a predepressive level. It is felt that this patient has several productive years ahead of him and the treatment resulted in a much more worth-while gain than commitment and prolonged institutional care could possibly have accomplished.

The following case is an example of a paranoid involutional reaction, combined with sclerotic disease of the heart and central nervous system, and yet demonstrates that proper therapy can bring about satisfactory results.

The patient is a 67-year-old white female, brought to the hospital on the referral of the family physician. The family are people of better than average means, and the daughters and sons are quite attentive and solicitous of their mother's welfare. They state she is nervous, upset, has been depressed, and they cannot get her to eat. They state that she believes that people have been trying to poison her, she thinks her food is poisoned and they have to force it on her; when the doctor wants her to take medicine she thinks he is trying to kill her and will not coöperate with him. She believes that her grandchildren are in danger from her husband, and she thinks all of her sons have taken sides against her. She remained somewhat attached to her youngest daughter, who brought her to the hospital and was the only one who was able to get coöperation from the patient. They state that the mother's memory had been failing for about two months. They also report that the mother had some type of a heart attack, about two months before admission, and that since that time she had been very apprehensive and upset, and felt that she was probably going to die. This has been more marked at night, when she has awakened confused, apprehensive, short of breath, and has complained that she thinks "death is upon her." She has lost a great deal of weight because she will not eat, she has been unable to sleep at night. Large doses of sedatives will put her to sleep for an hour or two and then she awakens. The patient states that she does not know why they brought her to the hospital, but she suspects they brought her there to "put her away." She thinks they are going to leave her in the hospital, and that they do not want to bring her back. She states that her son has been coming around at night, sticking her with needles. Past history reveals a native-born southern woman, who married her childhood sweetheart, 44 years before admission into the hospital. They have six boys and three girls, all living and well. She has always been a hard worker and she and her husband have accumulated considerable success. Her children are all in business, and all are prosperous. In fact, between the father and the six sons they control most of the business enterprises in a very prosperous farming community in a southern state. The patient is a Catholic, does not drink or smoke, but has no objection to her sons doing both in moderation. She has always had a lot of plans, had a lot of ambitions for her children, and the children have felt that she has always taken an active interest in themselves and in community projects. They state that she and their father get along very well.

Mental status examination revealed the patient to be apprehensive, fearful and to have definite paranoid ideas, centering around the family. These ideas have two principal themes—one, that the family is going to desert her, leaving her in the hospital to be killed; the other is that the family is going to kill her in order to get rid of her. She at times has somatic delusions, feeling that people come up and stick her with needles and inject medicines with the intention of harming her. The patient was oriented for time, place, and person. There were patchy defects, particularly in the recent sphere. The patient knows that she has been nervous and thinks it is possible that she may have imagined some of her difficulty.

Physical and neurologic examination revealed mild peripheral sclerosis, residuals of an old Bell's palsy on the left side, which had been present when she was a young woman. The rest of the physical examination was that typical of a 67-year-old woman. She was not hypertensive. Cardiovascular consultation and E.C.G. revealed definite evidence of myocardial damage, with left bundle branch block. Blood chemistry, kidney function test, blood count, urine examination, serologic studies all were within normal limits. Examinations of the skull and chest were essentially normal except for some increase in vascular markings.

The patient was first placed on subshock insulin, vitamins, and nicotinic acid and after two weeks she began to eat and gain a little strength. She was then started on electroshock therapy. She received a total of three electroshock treatments and following this showed a rather dramatic improvement. She became cheerful, friendly, and no longer agitated. She was able to sleep without sedation. She was allowed to return home and at the time of her dismissal the family felt that she had entirely recovered. The final diagnosis in this case was involutional psychosis, and generalized arteriosclerosis with particular involvement of the cerebrum and myocardium.

This case demonstrates the value of combined medical and psychiatric approach. Because the patient felt that her family was to abandon her, she was placed in a private room in which there were twin beds, and the youngest daughter or some member of the family stayed with her throughout her period in the hospital. This seemed to contribute greatly to her sense of security and comfort and just incidentally, cut down a great deal on the nursing care necessary. It is our policy to have all such patients carefully studied by the cardiovascular service, and the cardiac consultant assists us in the management. It should be pointed out that in these patients the usual curare modified electroshock is further modified by the administration of 1 mgm. of atropine about 30 minutes before treatment.

In the examination and treatment of the patients who come to the physician during the involutional period, there must be the constant thought that it is the period of beginning physical decline, and that there is a high morbidity of heart and vessel disease, pelvic pathology and endocrine dysfunction, particularly in reference to the ovaries and prostate. The physical picture is presented in the table.

Psychopathology. There is enough resemblance between the symptoms of the "normal" menopause and involutional melancholia that further study and investigation is indicated. On the one hand, there are seen frequently, jealousy feelings, rapidly shifting emotional states, mild depressive reactions, impulsivities of conduct, marked irritability, restlessness and hypochondriacal sensations, all considered within the range of the normal; and on the other hand in the most common psychosis of the climacteric, there are often deep depression, extreme angry irritability, paranoid trends, restless agitation and somatic delusions.

MacCurdy seeks to explain some of the involutional melancholic reactions on the basis of an ambivalency of the death idea. For instance, apprehension concerning death coexisting with suicidal attempts.

Henderson and Gillespie sum up McCurdy's theory as follows: "Involutional melancholia can be summed up as a regression to the 'primary subjective phase' of the minimum of mental effort (= death) and autoerotism (= hypochondria). Anxiety is the natural reaction to ideas of murder, torture, etc., which are symbolizations of the unconscious desire for death and derive their intense motive power from the latter."

Diagnosis. Since cerebral arteriosclerosis may complicate the involutional and particularly the presenile depressions, it may make for diagnostic difficulties. Cerebral arteriosclerosis does not eliminate the diagnosis of the involutional group of psychoses, but, psychoses with arteriosclerotic brain disease should not be diagnosed if evidence of general (persistent headache, dizziness, vomiting attacks, etc.) or focal (aphasia, paralysis, etc.) cerebral arteriosclerosis is wanting.

Table 9

General	*Body Systems*	*Subjective Sensations*	*Neurologic*	*Laboratory*
Often signs of precocious senility; gray hair, dry, harsh skin, etc. Marked insomnia. Anorexia, profound disturbances of nutrition, often marked decline in weight. Fatigability. Subnormal temperature.	There may be arteriosclerosis, many circulatory disturbances: cyanosis, pallor, coldness. Edema of limbs, irregular, small, slow pulse, low pressure (sometimes high). Cessation of menses or a great variety of other disturbances. Disturbed digestion. Obstinate constipation. Gastric achylia. Prostatic morbidity.	Many varieties including headache, head pressure and vertigo, precordial distress, dyspnea, "weight on chest," cardiac palpitation, ringing in the ears, etc., etc.	Nothing specific but there may be dilatation of pupils with sluggish reaction, tremors, modification of reflexes, etc. If central neuritis occurs there are signs of degeneration, contractions, emaciation, retraction of the lips, subnormal temperature, coma and death.	No specific findings but chemistry and the x-ray often discover positive findings in the gastrointestinal tract and elsewhere. Blood sugar curve is commonly high and there is often transient glycosuria.

Confusion with the rather rare organic presenile dementias should be prevented by a careful consideration of the amount and type of memory and retention defect.

A typical paresis should be readily recognized by the neurologic and serologic findings.

Typical manic-depressive with the classical syndrome of emotional depression and psychomotor retardation is not apt to appear initially so late in life. A careful survey of the history is very likely to reveal earlier depressive reactions, their equivalents and even manic reactions.

A careful survey of the presenting symptomatology should prevent confusion with manic-depressive psychoses. In the latter, if at all typical, there is the classical retardation of psychic and motor function. Furthermore, the constitutional nature of the psychosis is revealed by its onset comparatively early in life, some evidence of the manic phase and the appearance of recurrences.

A host of poorly defined psychotic reactions, involutional paranoia of Kleist, involutional paraphrenia of Lerko, Leclert's paranoid psychoses, presenile paraphrenia of Albrecht, late catatonia of Urstein, Kraepelin's paraphrenia, etc., etc., may jeopardize the diagnosis but, in them, the affective reaction is too meager, and eventually deterioration sets its seal upon the psychosis.

On account of the age incidence of involutional psychoses, schizophrenia is scarcely ever brought within the range of diagnostic possibilities, even though, now and then, there may be symptomatic resemblances. In this connection, however, it is now realized that schizophrenia may occur much later in life than was formerly believed.

There has been sufficient explanation to separate out the anxiety states that are basically psychoneurotic rather than psychotic.

Course and Prognosis. Before the advent of shock therapy involutional melancholia was lengthy in duration. Including a prodromal period of several weeks or months a course of one year to 18 months was not uncommon. Even after two, three, or four years, there is still a chance for recovery. The convalescence in untreated cases is likely to be gradual. The spontaneous recovery rate is about 23 to 40 per cent. The mortality by suicide and intercurrent disease is about 20 per cent, and about 25 to 32 per cent of untreated patients become chronic. Proper institutional and modern treatment, by means of one of the convulsive shock therapies will revise the recovery rate upward by as much as 25 to 40 per cent. Not all of the prognostic factors to be described later apply in these treated cases as well as those allowed to run the course spontaneously. Onset after the age of 55, or in the presence of advanced organic change, make for a poorer prognosis. The patient with a diminished affective reaction, who shows organic signs and persistent paranoid trends, has a poorer chance for recovery.

Hoch and MacCurdy report that chronicity is determined by a duration of four years, by the fact that the following symptoms are dominant and fairly constant: Marked insufficiency of affect, peevish autoerotic behavior or ridiculous hypochondriacal delusions, usually referred to the alimentary tract, the triad of peevishness, hypochondriasis, and a considerable narrowing of affect is regarded as having ominous prognostic import. On the other hand, the relative absence of hypochondria, fairly well retained emotional reaction with great anxiety, restlessness, and delusions of death and poverty are said to offer a favorable outcome. It is probably true that after the second year the chances of recovery rapidly diminish. It is also probably true that the greater the prevalence of organic changes in the central nervous system, and evidences of chronic organic disease or deteriorative processes in the body, generally make for a chronic course and a generally poor prognosis. In our experience the prompt institution of therapy, directed toward the general bodily state plus the early institution of convulsive shock methods, in those patients physically able to withstand these treatments, greatly shorten the course of this illness, and in some instances complete remission may take place in some six to eight weeks. The delusions subside and the patient begins to take care of himself, the marked agitation disappears, and the patient gives up the suicidal preoccupation.

Treatment: PREVENTIVE TREATMENT. Every woman should be prepared psychologically for the menopause. The prevalence in our culture of ideas that people must have nervous trouble, that their usefulness comes to an end with the involutional period, that they lose their attractiveness for their husband, who is usually going through the same changes, and that their sexual life is at an end should be combated by the medical profession. Women must be made to understand that the involutional period is a normal, physiologic state, just as adolescence was, and that, while it is accompanied by certain unpleasant physiologic sensations, they are neither permanent, severe, nor call for a change in her way of life. The only definite changes taking place that are significant to her are, first, that she need no longer go through the unpleasantness of the monthly menstrual period, and second, that she need no longer worry about contraceptive techniques in her marital relations. Vasomotor reactions due to the endocrine involution may be combated with estrogenic hormones if these symptoms are severe. In most instances in our experience, reassuring the patient concerning her physical and psychiatric status will make the use of endocrine therapy unnecessary.

MANAGEMENT OF THE ACTIVE PHASE OF THE ILLNESS. Treatment as outlined under the depression will apply equally well in all of its aspects to the management of involutional cases. These patients are dangerous to themselves and must be cared for by skillful and trained nurses if suicides and self-mutilation are to be avoided. These patients usually neglect their diets and become dehydrated and lose weight. Attention to the diet will usually be rewarded by gradual gain in weight with an accompanying improvement in the patient's general mental outlook. The use of sedatives, given as small doses of the barbituric acid series, are often indicated. As in the other forms of depression, the sedatives should be adapted to the type of sleep disturbance from which the patient suffers, and should not be given indiscriminately, or according to the latest advertisement. Because many of these patients also show physical involutions, frequent rest periods are of value, and diverting activities of the nonstrenuous sort are preferable. The general medical features of the case should be cared for. In many of these patients we find the beginning stages of hypertension, early arteriosclerosis, and in not a few, the early development of the early signs of pernicious anemia, diabetes, or other illnesses that may come with later life. Weight loss should be attributed to the agitation and poor eating habits only after complete physical and laboratory studies have demonstrated the absence of chronic illness such as those mentioned, or the absence of malignancy. Careful attention to complaints of gastrointestinal disturbances should be given in these patients. Any somatic factors present should be treated promptly, but elective surgery should be postponed until the patient is well along the road to convalescence.

In recent years, the use of convulsive therapy, in the form of electric shock, or metrazol seizure, preferably modified by curare, has greatly altered the outlook on these patients. In many of them, the administration of as few as four or five shock treatments will greatly alter the nursing problem so far as the patient is concerned. These patients show a somewhat greater tendency to develop sensorium defects after the treatment, but, in most instances, these defects are not permanent. Even if they were, in our opinion the improvement brought about, and the general safety of the patient so far as suicide is concerned, does warrant the risk. Curare modification of the shock treatment largely prevents fractures from convulsive therapy in these patients. The technique of shock therapy in these patients is exactly the same as that outlined under the depressions. Many patients will require institutional care, or at least special nursing care in the home, to protect them from suicide attempts. It is also important that the nurse or attendant be skilled in handling these patients in order that they may preserve the proper attitude toward the patient and the patient's ideas. In most instances, psychotherapy must consist of short reassuring interviews and plans of bringing about the patient's interest in environmental events. Deep or detailed psychotherapy is without benefit once the psychosis is fullblown. On recovery, many of these patients are anxious to work out a most satisfactory philosophy of life and at this time psychotherapy may be of great benefit in preventing relapses. Occupational therapy is skillfully planned so that it may be a source of interesting diversions and stimuli to the patient rather than a series of uninteresting weavings of rugs or chair bottoms. The follow-up care of these patients after leaving the hospital is extremely important.

Surgical Procedures in the Treatment of Psychosis.[1] In 1936, Egas Moniz, a Portuguese surgeon, recommended prefrontal leukotomy as a neurosurgical aid in the treatment of chronic, intractible depressions characterized by severe agitation and motor restlessness. This "psychosurgical" procedure at first met not only little acceptance but almost general condemnation. Watts and Freeman, in 1938, published a favorable record of their experience with involutional cases of longstanding and with a hopeless prognosis. They also found the operation to give a degree of help to obsessive-compulsives who were unable to be helped otherwise. Strecker, and Francis Grant of Philadelphia, have used this operative procedure in a few carefully chosen patients, whose behavior patterns were predominantly fear, anxiety, and hyperkinesis, with favorable effects. Grant uses the procedure only upon those patients who have totally failed to respond to other treatments and whose psychiatric prognosis is unequivocally bad.

Moniz at first used alcohol injections into the centrum ovale, but later, bilaterally cut 3 cores, 1 mm. in diameter with a leukotome, leaving the cut tissue in situ. The operation itself is relatively simple to perform in the hands of a skilled neurosurgeon; however, certain dangers are present. One death has been reported, as well as hemiplegia in a second case. If the frontothalamic tracts, which lie mesial to the centrum ovale, are cut, voluntary control of bladder function is lost and this is reported in several cases.

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[1] This section written by James A. Flaherty, M.D., Department of Psychiatry, University of Pennsylvania School of Medicine.

Of interest, from the standpoint of better intramural management or of living outside of a hospital with some supervision, are the results Grant has obtained with at least four schizophrenics who were chronically assaultive, homicidal, denudative and almost continuously requiring seclusion. They are now on a greatly improved level of behavior; indeed, one manages all her own affairs protected only by a trust with a "spendthrift" clause; while a second has normal contacts with friends and family who before were unable to approach her without danger to themselves.

There is the likelihood that the operation of prefrontal leukotomy is being used too extensively. Recently one of us was asked to read an article submitted for publication to a prominent and widely read magazine. In the article prefrontal leukotomy was enthusiastically advocated, not only for the psychoses but for functional illness, alcoholism, sexual psychopathy, and many other conditions. The fact that the operation was not made available to psychoneurotic veterans was deplored as a grave injustice.

It is well to keep in mind sensible criteria: undoubted chronicity, failure of other methods of drastic therapy, absence of contraindication and rather than operating for a psychosis, the application of the operation for a definite clinical syndrome composed of constant assaultiveness often to the degree of homicidal intent and often dictated by a vivid and active hallucinatory-delusional content.

In recent years the original leukotomy operation of Moniz has been modified for some types of patient. Among these is the so-called "ice-pick" operation of Freeman, which is adequately described in the literature and is reputedly a less drastic operation than a leukotomy and suitable for milder cases. Among the more radical operations is the so-called "topectomy" operation, which is supposed to have a more specific effect upon the various chronic psychotic states. The authors' experience with both of these methods has been limited but in our experiences they remain, as do leukotomies, rather extreme methods to be used only in those patients who have failed to respond to the more conservative therapeutic methods.

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CHAPTER 6

THE SCHIZOPHRENIC REACTION TYPES

Definition. Schizophrenia is a group of reactions characterized by apathetic, silly, or unexpected emotional responses, many types and varieties of defects in the thinking processes, and in most cases the presence of delusional and hallucinatory phenomena.

These reactions were originally grouped together, under the term dementia precox, by Kraepelin because he felt they shared the tendency to chronicity, the tendency to deteriorate and the tendency to develop in early adult life. The present term, schizophrenia, was coined by Bleuler to avoid the unfavorable prognostic implications in the Kraepelinian term, and to more accurately describe the breaking up or dissociation of the normal pattern of response, particularly the disruption, quantitatively, and qualitatively of the usual emotional-ideational parallelism. Adolf Meyer has proposed the term parergasia as a still more accurate expression of the distortions in the behavior pattern seen in this reaction type.

Freud and his students have described the clinical manifestations of schizophrenia as regressive phenomena or returning to earlier forms of emotional adjustment, in which the person was not dependent upon outside sources for satisfaction of his basic needs. This is usually referred to, in technical language as "a regression to primary narcissism."

Incidence. Each year, at least 30,000 individuals in the U.S.A. alone develop schizophrenia. Unless treatment is prompt and vigorous these patients become chronic institutional cases, and in too many instances they become chronic in spite of treatment. The age of onset is most often in the late teens or twenties, but cases have been reported as young as six years and as late as 60.

Etiology and Psychopathology. The etiology of the schizophrenic reactions is unknown. In spite of this, less than 1 per cent of the public money spent for the care of these individuals is devoted to research. The theories and explanations of the causes of these reactions are many, and are notable examples of the verbal dexterity of most psychiatrists, but have contributed little to a more satisfactory treatment of the individuals suffering from schizophrenia. The earliest concept that dementia precox was inherited has been largely discarded. Pollock, Malzberg, and Fuller state, "It is clear, therefore, that though there is probably a familial basis for the origin of many cases of mental disorder in the family stock of probands with dementia precox, the observed frequency cannot be described in Mendelian terminology." The theories at present entertained fall into two large groups; (a) That schizophrenia is a functional disorder, a faulty reaction to life experiences with habit deterioration, and that anatomic, chemical, or physiologic variations from normal are explained by the tensions, frustrations, and other difficulties induced by the patient's attempt to compensate for his functional difficulty; and (b) that schizophrenia is an organic disease process of unknown cause and unknown pathology, characterized by alterations in behavior and habit deterioration with return to more infantile levels of adjustment, not unlike those seen in some of the organic mental states. Present theories about the etiology of schizophrenia have been very well delineated and described by Bellak, and he discusses in detail the interrelationship of the psychogenic and somatic factors in the illnesses.

FUNCTIONAL CONCEPTS. The functional concepts have distinguished American psychiatry under the stimulus of Meyer, Freud, Hoch, White and their pupils. The basic view is that certain individuals meeting life experiences to which they have difficulty in adjusting withdraw or compromise in an unsatisfactory manner. The person finds his satisfaction in phantasy wherein he says or does the things he wished to do in the original setting. Succeeding difficult situations are handled in a similar manner. As time passes and difficulties accumulate, the individual depends to an increasing degree upon himself and his own phantasies for his satisfactions from life. At last a point is reached where these phantasies assume the dominant role in his life and environmental events are interpreted in terms of these phantasies. The patient is said to be living in a world of unreality. His own ideas, wishes and beliefs are attributed to the people in his environment. This results in difficulties in adjustment to family and friends, neglect of business and social obligations, neglect of person, and, at times, conflict with law and social custom. In the longitudinal study of such patients, the step-by-step development of the symptoms and the content of the phantasies and delusions can be understood if the data available is sufficient.

Analysis of schizophrenic patients has demonstrated that these patients have great difficulty in forming emotional attachments to persons or objects other than themselves. The disturbance in the capacity to develop emotional drives or urges toward other persons explains much of the emotional pathology in schizophrenia. This will have more meaning if the student will recall (see Chapter 1) that in the beginning the infant has difficulty in distinguishing between that which is himself and that which is in the world about him. Experience and emotional development have not yet progressed to the point where he exists as an individual separate from other individuals and things in his environment. He thus must look to himself for satisfaction of all his needs. In schizophrenia, the person having found the world about him completely unsatisfactory for supplying his needs and demands, regresses, as a protective device, to levels in which he was, in effect, self-sufficient. This mental self-sufficiency, in infancy as well as in schizophrenia, paradoxically results in almost complete dependence on others for his physical nutrition. The incongruity of this is impossible for the infant to recognize because of lack of experience, and apparently equally impossible for the schizophrenic, in view of the fact that he has returned to a narcissistic level of adjustment. The concept best explains the behavior and other symptoms of the schizophrenic. Fenichel has stated, "The infant starts out in a state of 'primary narcissism' in which the systems of the mental apparatus are not yet differentiated from each other, and in which no object exists as yet. The differentiation of the ego coincides with the discovery of objects. An ego exists insofar as it is differentiated from objects that are not ego. Therefore, the following formulas mean one and the same thing, only varying in point of view; the schizophrenic has regressed to narcissism; the schizophrenic has lost his object; the schizophrenic has parted with reality; the schizophrenic's ego has broken down."

Prodromata of the illness are often seen for many years before the final regression takes place. Persons with these prodromata are usually referred to as "schizoid." It is believed that much can be done to prevent the final schizophrenic break, if persons with the so-called "schizoid" temperament are assisted in finding satisfactions in their environment before the final break takes place.

Bleuler writes of the schizoid as follows: "The schizoid retains his independence towards his surroundings; he strives to withdraw from the affective influences of the living as well as the dead environment and to pursue his own aims. In pathological states this may develop into active, hostile, or passive dereistic[1] (*de reor*, away from reality) attitudes, and in milder forms it still leads to a seclusion from reality or to an active transformation of it for one's own aims, or to an adjustment to reality by means of inventions. The schizoid person may be persecuted or litigious, but he seeks and always finds new paths and outlets . . . the lack of respect for reality and for existing things leads on the one side to an effort to change them somehow, and on the other hand to turn into oneself . . . In contrast to the syntonic (extrovert) who has the ability and will to live through his reactions to outer influences and thus settle them, the schizoid can keep them from discharging, thus saving the motive power for later times and then add it to the feelings tending in the same direction. He thus not only saves force but time and opportunity for reflection and modifications of past inner and outer circumstances."

The schizoid is not in himself mentally abnormal. "Thus, the expression schizoid now designates a type of psychic being and psychic reaction which exists in everyone more or less pronounced, in its morbid aggravation it manifests itself as schizophrenia, but in its milder development it is seen in the psychopath hitherto designated as schizoid without, however, reaching to the degree of being called a psychotic." (Bleuler.) Nevertheless, the roots of schizophrenia are firmly embedded in schizoid soil.

[1] "It is characteristic of this 'dereistic thinking' . . . that it totally ignores any contradictions with reality."

The person who is schizoid to a dangerous degree does not find the world a pleasant place in which to live. He does not successfully meet reality and his sensitive nature shrinks from "the slings and arrows of outrageous fortune." Secretly, he probably envies success in the abstract, but he hesitates to take the real concrete steps which make for this enviable state. With the dexterity of thought which he possesses he clothes everything in garments of idealism. Sex is beautiful, but its actual physical contacts are not pleasant in his mind. Success in any field is desirable, but competition is distasteful to him. Unquestionably, there is always in his mental life the conflict between the desire to grasp the fruits of endeavor in every phase of life and the shrinking from the bold and postive efforts that must be made before the victory is secured. Without doubt, sooner or later, he comes to the crossroads of his mental life, and there must be some decision as to which path he will tread. Shall he continue the hard battle of facing reality or may he take the easier road? Already he has succumbed to the temptation of excessive daydreaming. It is unreal but pleasing. In this way all the hard knocks of reality are made to disappear and his hurts are soothed.

The schizoid, however, has great capacity for introspection. Thought is at once his greatest security and his greatest danger. One may picture the potential schizophrenic at this stage as courting unreality in his daydreams. If his ultimate fate is to be schizophrenia, he loses some small part of his hold on reality almost day by day. Finally comes the time when, judged by the criterion of the world as applied to himself, the verdict of failure is unescapable. His ego, still strong, cannot accept the conclusion that he did not succeed because, in truth, he could not face the struggle that is necessary.

Theoretically, we are now at the stage where the psychosis is about to come to his rescue. In this connection, it is interesting to note how often the first outspoken symptoms of schizophrenia are, in effect, unconscious and pathologic excuses for the inability to persist in some field of endeavor and overcome the obstacles which are in the way. For instance, in cases A, B, and D to be presented, this phenomenon is strikingly illustrated. When the first case described in this chapter, the medical student, came to the end of his mental string, he suddenly leaned out of the window and screamed loudly—"You dirty s—s of b——s, stop flashing those lights." The second case, the young girl, became "moody," "stared," and went into a panic during which she made a foolish attempt at suicide in the wake of her first and probably only love affair. The third case (p. 283) made a scene in the City Hall because he believed himself persecuted on account of his inventive genius.

We have briefly indicated a few of the preliminary psychologic considerations which seem to underlie the development of schizophrenia. You will recall that first there is a personality, introverted to a dangerous degree. This personality is badly equipped to come to grips with reality. Too often the unsuccessful struggle conditions a retreat and a yearning for that world of unreality and phantasy in which no effort is required to make dreams come true.

Eventually, even feeble attempts to dominate the real cease and the break from reality occurs. Since the ego must be absolved, the blame for failure is projected outside the individual onto others or the conditions of things.

The drama of schizophrenia, however, is not yet closed. If this were the end, the patient would immediately retire into the ivory tower of phantasy and would have no more part in the world, as we know it, than if he were actually physically dead. This, of course, is not true; many of the early symptoms bespeak the fact that reality continues to knock at the door of the psychosis. There are panics, suicidal attempts, excitements, and the like. Again, some patients are reclaimed and recover. That means they abandon unreality and become what we call sane.

Various authors divide the psychosis, schizophrenia, into stages which, to our minds, seem artificial and leave out of account the psychopathology. There are only two stages: The first might be called the active stage, and it lasts as long as the patient has not completely accepted the psychotic material. In other words, we may presume that he is still aware, however faintly it may be, of the claims of the real and concrete environment. Once he succeeds in completely shutting this out, he lives wholly in phantasy and has entered the second phase of the psychosis. We speak then of his being deteriorated or even "demented."

The break with the environment lessens the censorship of social criteria, and inhibitions rapidly disappear and uninhibited regressive and primitive speech and forms of behavior are employed to express deeply underlying and often archaic trends.

What of the attitude of the schizophrenic toward environmental reality as the psychosis progresses? We have compared it to the attitude of a man who finds himself at a play which bores him greatly, but he is unable to leave the theater. He has devalued the play, is indifferent to it and escapes by recourse to pleasant and purposeless thinking, but, at least, the potentiality of realigning himself with reality remains.

ORGANIC CONCEPTS. The organic theories have been most popular in Europe. Much material has accumulated, but the findings are inconstant, and in most instances the clinical features of the particular "schizophrenics" studied are not clearly indicated. Many workers have reported a correlation between schizophrenia and the so-called linear or asthenic or leptosomatic body type, but every psychiatrist has seen many typical cases of athletic or pyknic body build. One can say that there are more linear than broad persons suffering from schizophrenia, but body type is apparently not essential to the development of one of this group of disorders.

Pathology in the brain itself has been reported by many laboratory workers. Nissl reports cortical degeneration. Josephy found cellular changes in third and fifth layers of the cortex and Naito confirmed these findings. Funfgeld described lipoid sclerosis in the third cortical layer and lipoid deposits in the optic thalamus. Marcuse claims to have found double nuclei and lipoid degeneration in some of the thalamic ganglion cells. Kitaboyashi reports characteristic changes in the choroid plexus. Alzheimer demonstrated ameboid glia cells in some acute cases. Penfield, and Elvidge and Reed have demonstrated a glial reaction in the white matter of biopsy specimens removed from both acute and chronic cases of schizophrenia. Elvidge and Reed believe the symptoms are due to disturbance of the association pathways, and report similar findings in manic-depressive patients, and patients in a postepileptic stupor. They found no such changes in epileptics who were mentally clear, and no such change in the control patients. Goldstein, Nissl and Orton also found a glial reaction in the white matter and the deep cortical layers plus an increase in the lipoid content of the ganglion cells. Freeman found fat in increased amounts in the cells of the basal ganglia, and calcareous degeneration of the blood vessels in many cases of schizophrenia. Freeman also found a deficiency of iron in the cortical ganglion cells in schizophrenic patients of all types except the paranoid form. Dunlap's famous report did much to discourage further neuropathological studies in America. His report concludes: "For us the changes in the brain of schizophrenia are not only inconstant and non-specific, but they are such as may be found in any series of control cases, in other words, their significance for the disease process seems to be without importance." Many workers, notably Spielmeyer, believe that the pathology is present, but cannot be demonstrated by present laboratory methods. He states "There are many cases in which the anatomical analysis has revealed no deviation from the norm. It does not appear justifiable, however, to conclude, as many investigators have done, that such a negative finding renders apparent the functional rather than the organic nature of the process of dementia praecox."

There are many other studies which show more generalized pathologic and metabolic disturbances. Kraepelin believed that the disease was due to metabolic autointoxication resulting from a disturbance in the gonads. Mott reported testicular and ovarian atrophy with attendant endocrine dysfunction and final brain pathology in schizophrenic patients. This work was severely criticized, and Morse pointed out that the changes were probably unrelated to schizophrenia. Recently Hemphill, Reiss and Taylor report a special form of atrophy of the tubules of the testicles in many schizophrenic patients. They did not encounter these changes in control subjects or in patients suffering from other types of mental disorder. These studies were made on biopsy specimens taken from patients in good physical condition. They found the atrophy varied in severity with the "malignancy of the psychosis," and did not vary with the duration of the illness, the patient's age, or the patient's body type. The atrophy was rare in the paranoid form of schizophrenia, and was never severe in this group. They conclude that the testis change is not the cause of schizophrenia, but is evidence of a complex central imbalance of which it is one sign. "Not related to mental trauma or masturbation." They found the atrophy was not accompanied by a decrease in "17-ketosteroids" or by a loss of secondary sex characteristics. They treated 18 cases with follicle-stimulating gonadotrophic hormone from pregnant mares serum, but the results were not remarkable. Many other laboratory findings of interest have been reported; Kasanin noted a high sustained glucose curve during stupor; Whitehorn noted decreased glucose tolerance and diminished inorganic phosphates in the blood plasma; Hertz found shortening of blood coagulation time; Bowman reported evidence of polyglandular disorder; Henry found definite changes in gastrointestinal motor function, especially in acute cases, similar to those associated with fear or rage; Malamud and Rothchild found decreased permeability to bromides of the blood cerebrospinal fluid barrier in 60 per cent of schizophrenic subjects; Wikoff, Martin and Marvin found the bromine content of the blood lower in schizophrenic patients than in control subjects living in the same city and drinking water from the same source; Friedman, Emerick and Thale report a smaller rise in cerebrospinal fluid pressure, from histamine injections, in schizophrenic patients than in their control series; Katzenelbogen, Solomon and Snyder found serum potassium elevated in five patients in a group of 29 schizophrenics studied, and state the variation is due to emotional states; Harris found 33 per cent of his schizophrenic patients had serum with a "pronounced antagonistic effect on the action of insulin," but could note no correlation between the symptoms and the presence of abnormal reaction to insulin; Meduna first found this abnormal reaction to insulin in 60 per cent of his schizophrenic patients; Molholm found, in a series of 12 schizophrenic patients, that his subjects did not develop sensitivity to guinea-pig serum as readily as control subjects.

STUDIES ON THE GLUCOSE AND OXYGEN METABOLISM IN SCHIZOPHRENIA. Recently Meduna has shown that the changes in the blood chemical constituents, particularly in the glucose and carbohydrate metabolism is identical in the various types of shock therapy. He concludes that the shock treatments bring about a condition which interfered with the enzyme system in carbohydrate metabolism. In regards to the biochemical changes in the brain itself, it has been demonstrated that the pH of the cortex shows similar alkaline shift in both hypoglycemic and convulsive treatment, and an acid shift during the period of relative anoxia. Lactic acid and phosphorus increase during both convulsions and anoxia. An increase of inorganic phosphorus explains itself by a decrease of phosphocreatine. A relative anoxia of the cortex appears before, during, and after convulsions, and a similar condition prevails during anoxemia. The production of acetylcholine is decreased in hypoglycemia and anoxia. It seems that any means of treating schizophrenic conditions must interfere with some phase of the carbohydrate metabolism if it is to be effective. At present we do not know just how this disturbance must be brought about but it seems necessary to interfere in some manner with carbohydrate and oxygen metabolism in order to bring about any therapeutic effect in schizophrenia.

Modern research on the etiology includes studies of the cellular proteins and studies on enzyme factors in the brain. Casperson and the group at the Caroline Institute in Stockholm have been the leaders in the examination of the nucleo-proteins. They offer evidence that there is a depletion of the nuclear proteins in the ganglion cells of patients suffering from schizophrenia. This exhaustion is particularly in the Malononitrile factor. The clinical studies of these cases are not as clearly delineated as one might wish, and the control series have not been as fully carried out as one hopes they will be in the future. Pinkus, Hoagland, Ashby and others have studied the effect of the various pituitary and adrenal cortical secretion in patients suffering from these functional psychoses. Work in these spheres may offer great promise, but to date has been inconclusive. Ashby did show that the adrenal cortical steroids play some role in the brain metabolism of glutamic acid. Ewalt and Bruce have reported that the administration of glutamic acid to certain types of schizophrenia, particularly catatonic, will produce marked modifications in behavior of a temporary sort. Whether all of these changes have to do with some primary disturbance of the endocrine system, or the protein metabolism, or whether the changes are all secondary to the autonomic disturbances produced by the emotional stress of the patient, is at this time unknown. Variations in the enzyme systems of the brain are also the subject of many studies. Ashby and her associates have been the leaders in this field, but to date the findings are inconclusive and the techniques are difficult. These fields deserve a great deal of further investigation.

Lewis and his workers at Columbia have done much work on the constitutional factors in schizophrenia. They have found that the average heart size in hebephrenic and catatonic schizophrenic patients is on the average smaller than in other mental disorders, and smaller than the published figures for the average normal human. They also found that the testes, the thyroid, and adrenal glands were rather small in the schizophrenic patients. They postulate some defect in the growth processes as playing a role in schizophrenia. In terms of the constitutional factors in schizophrenia there have been several reports on twins. Recently Arieti made a report on a pair of monozygotic twins in which the most asthenic, more passive and less well adjusted one developed the illness first, had projections and became chronic. The one who had a more athletic habitus handled problems better and had more neurotic complaints of a somatic type, recovered promptly. One wonders in this case whether the second one might not have represented an example of folie à deux phenomena.

One of the most conclusive studies indicating the presence of a strong genetic or constitutional factor in schizophrenia is the study performed by Kallman and the following information was furnished to us through the courtesy of Nolan Lewis and Francis J. Kallman. The conclusions are based on 794 sets of twins, and 691 families of twins, which included 2,741 full siblings, 134 half-siblings, 74 step-siblings, 1,191 parents and 264 marriage partners of twin patients. The morbidity rate discovered in this series is in line with a genetic theory of schizophrenia. They found an incidence of 1.8 per cent with schizophrenia in step-siblings, 2.1 per cent for the marriage partners, 7.0 per cent for the half-siblings, 9.2 per cent for the parents, 14.3 per cent for the full-siblings, 14.7 per cent for the dizygotic co-twins and 85.8 per cent for the monozygotic co-twins. "This morbidity distribution indicates that the chance of developing schizophrenia in comparable environment increases in proportion to the degree of blood relationship with schizophrenic index case." The data has been presented in great detail by Dr. Kallman and the student is referred to it. It is emphasized by Kallman and Lewis in their report that the genetic theory does not invalidate any psychologic theory of a descriptive or analytic nature and is equally compatible with the psychiatric concept that schizophrenia may be prevented as well as cured. It is, however, the most definite evidence yet published as to the presence of a genetic factor in schizophrenic cases.

The factors of inheritance in schizophrenia must be evaluated in terms of what environmental change for the patient was produced by the illness of the parent. Such questions are raised by the work of Berry, who found that a surprising number of schizophrenic patients had lost their mothers prior to eight years of age, and the separation of the mother from the child by the development of a psychosis would have to be evaluated in any consideration of the possible role of heredity in the production of these disorders. Ruth and Theodore Lidz have published material on a small group of schizophrenic patients, showing a significant incidence of parental separation, other parental difficulties and emotional disturbance in the parents. This phase of the problem needs to be studied exhaustively from a clinical and sociologic point of view before it can be evaluated, but it is felt that these studies would throw much light on what appear to be constitutional or hereditary factors in schizophrenia. Torsten Sjogren has been making careful studies of the genetics of a West Swedish population. He has shown that there is no appreciable increase in the frequency of consanguinity between the parents of psychotics, although in patients suffering from oligophrenia there is a definite increase in the intermarriage of families.

Symptomatology: HISTORY SUMMARY. One of the most characteristic findings in schizophrenia is the history of the patient's development. In the majority of cases the childhood will be characterized by difficulty in socialization with other children. The inability to find a workable means of forming friendships, giving and receiving satisfactions in play, winning and losing his own battles, expanding his contacts with people and resources in his environment results in unhappiness, feelings of inadequacy and finally withdrawal from an active participation in the community life of his playmates. Attempts to compensate and find satisfaction in adult approval frequently make these children well behaved, quiet, and studious. At times these efforts are successful and the child is regarded as precocious or brilliant by his parents and teachers. His playmates usually regard him as "queer," "a sissy," "teacher's pet," or "an icky." With time this leads to more and more withdrawal, and increasing dependence upon daydreaming, and later phantasy for the satisfaction of the drives finding no outlet in the environment. Then the child may be described by parents as "lazy," "daydreamy," "stubborn," or "stupid." His school work suffers and in some instances these youngsters are removed from school because of "nervousness." The development of interest in the opposite sex at puberty is characterized by phantasies and masturbation rather than efforts at social contacts and sex play directed toward the available persons of the opposite sex, and with masturbation often the sole substitute. It is often difficult or impossible to determine just when the psychotic phase begins. In some instances the family will report a sudden onset with hallucinations or the free expression of delusions. In many cases, more careful inquiry will divulge an in-between period of peculiar and bizarre ideas, periods of confusion, and periods of very rich and vivid phantasy preceding the time of onset as fixed by the family. In some instances this general type of history is not found. This may be an example of a mother's projection of her ambitions rather than the facts of the history, but in some instances it is accurate. In such cases, the early ability to establish good emotional relationship to the environment is a favorable prognostic sign. If chronologic adulthood is reached prior to the onset of symptoms, the history often reveals a failure to assume adult responsibilities. They are often dependent upon others for emotional support, usually single, and if married, dependent upon the spouse for support and mothering. Any skill or achievement reached is usually in the intellectual or cultural fields, where mutually satisfactory emotional relationships with their fellow creatures are not necessary for success.

Physical Summary. There are no specific physical or neurologic abnormalities in schizophrenia. Many patients show evidence of poor vasomotor control manifest by peripheral cyanosis of a peculiar mottled type, localized edema, localized sweating, absence of pupillary response to emotion, and hypotension. Secondary infections, anemias, poor nutrition, poor gastrointestinal function and like dysfunctions are frequently encountered and are probably due to neglect and lack of proper hygienic care.

Mental Summary. The mental symptoms in schizophrenia vary greatly in individual patients, yet they share in common certain types of emotional change and distortions in thinking which Bleuler considers the basic or primary symptoms, and most patients experience delusional and hallucinatory phenomenon, which are the most spectacular part of the illness.

Symptoms Manifest by Disturbance in Behavior. The behavior of persons suffering from schizophrenia is usually distinguished by some unusual feature. The most typical behavior is that of shyness, the desire to be alone, active avoidance of friends and family, and a tendency to stand, sit or lie for long periods lost in phantasy—known to students as "schizing"—and oblivious of the environmental events about them. In some patients this preoccupation becomes very pronounced and the patient appears to be in a stupor, responding only to acutely painful stimuli. In severe cases, they are said to have developed "catatonia" and some of them may be placed in awkward, uncomfortable or ridiculous positions which they will maintain for long periods of time. Such a state, called "waxy flexibility" or "cataleptic" is associated with drooling of the saliva, retention or incontinence of feces and urine, and failure to take food or fluids voluntarily. Failure to move about for long periods results in postural edema, and in these cases a peculiar mottled type of peripheral cyanosis is often encountered. Patients with catatonic symptoms may show short periods of overactivity during which they fight, assault other patients and personnel, disrobe and break up the furnishings in their room. After a period of overactivity, which may vary from a few minutes to several weeks, they return to their lethargic semistuporous or stuporous state. Other patients may be overactive in a silly facetious way. They dance, sing, and go through weird and intricate gestures, all of which symbolize or act out portions of their phantasies and delusions. Some of this group decorate themselves with trash, rags, jewelry or anything available as part of their symbolization. Others draw, paint, carve, or model intricate abstract designs and stylized figures as part of their symbolization. In the paranoid form of schizophrenia, the patient's behavior may attract little attention. Many carry on their daily activity in a satisfactory fashion, but close scrutiny will usually disclose bizarre diaries and other unusual written productions, hidden "evidence" of their persecution, often protected by elaborate precautions, duplicate copies, lock-boxes, etc. They may have elaborate systems of lights, escape routes, and at times dictaphone recorders as self-protective devices. These anomalies of behavior may be concealed for long periods by these patients, and they are disclosed with great reluctance in many cases. Homicidal assaults occur in some instances, but much less frequently than the general public believes. These aggressive acts may occur during bursts of catatonic excitement mentioned above, as part of the acting out of phantasies of a religious sort, as a result of orders and commands received via their hallucinatory experiences, or to protect themselves from imagined dangers or threats.

SYMPTOMS MANIFEST BY DISTURBANCE IN THINKING. Disturbances in thinking are characteristic of schizophrenia, and occur in all cases. Bleuler, with many others, believe that these disturbances are fundamental symptoms. These disturbances or distortions are of several types, all more or less related. Disorders of content are found in most schizophrenic cases. These are manifest by the delusions, peculiar beliefs and bizarre ideas encountered in these cases. Because of their unusual nature, these ideas are most easily detected, and are the ones associated with "insanity" in the average lay persons thinking. Disorders of form and organization are more difficult to detect but are even more specific for the schizophrenic group of disorders than the content disturbance.

CONCRETE *vs.* CONCEPTUAL THINKING. Goldstein has described the thinking in schizophrenia as "concrete" as opposed to "conceptual" in normals. By concrete thinking, he means the interpretation of words, and environmental activity in terms of one's own associations or phantasies at the moment. Events of any sort are interpreted, not in the setting in which they occur, but in terms of one's own phantasies of thoughts at the moment they occur. An example would be: a patient thinking that his fellow patients dislike him hears another patient sneeze. Instead of believing that the other patient had a cold or some other nasal irritation, the schizophrenic patient interprets the sneeze as an insulting gesture performed to annoy him, and he may even think it symbolizes or means the other patient regards him as a homosexual or a s.o.b. Another example would be a patient who believes he is Jesus. This idea persists in spite of the fact that he is in a hospital with few privileges and no power to alter his own living arrangements.

DISSOCIATED THINKING. In so-called normal thinking a person constantly chooses from an immense number of possible associations that have been created by the individual's past experience. The final selection is guided by the goal idea, modified by affect, and finally organized according to the person's concept of the situation. For example, if I am in the surgery and think of alcohol I then associate it with dressings, cleansing of skin, etc., but if at a party, the associations are of drinking, past indulgences and the gregarious pleasures associated with intoxication. In the schizophrenias the associations no longer follow ordinary channels toward a final goal but may suddenly leave the primary topic and wander off on some irrelevant byway. The classic example is the schizophrenic patient who, when asked the question: "Who was Brutus?," answered "Brutus was an Italian." In his answer the patient displays an understanding of the problem and gave the right association to place, but failed in the time association. Still more advanced cases show a complete lack of sequence and are not associated with anything apparent. Example: I went for a walk. God is in me. They say I am immoral. Nurse, nurse, nurse. Where is my baby?

COMBINING OR FUSING IDEAS THAT HAVE NO LOGICAL CONNECTION. This symptom is occasionally seen in advanced schizophrenia and is similar to some of the false or chance associations reproduced in the speech of children. For example, a patient sitting alone laughing was asked why he laughed, responded "because you are a doctor," in spite of the fact that he was laughing prior to your appearance. Another example is the patient who knows the doctor is married and the nurse is married and assumes that they are man and wife.

CONDENSATION. Several different ideas may be combined in a process called condensation. The Bleulerian example is the patient who sees a steamer and sailboat and speaks of "Steamsails."

DISPLACEMENT OF IDEAS IN WHICH ONE IDEA APPEARS FOR ANOTHER. This situation is seen in the productions of schizophrenics and in certain psychoneurotics. An example was seen in a patient, Mrs. Smith, who had been mistreated by an instructor while a student nurse. In the hospital in which she is a patient there is a nursing instructor who remotely resembles the patient's former teacher. The patient attacked the instructor at every opportunity, but coöperated well with the other nurses on the floor.

SYMBOLIZATION. Symbolization is a special form of displacement and is frequently used by schizophrenics on occasions where the ordinary person would have expressed the real idea. Bleuler's example is the pregnant schizophrenic who expressed the fact that she was pregnant by stating: "I hear a stork clapping in my body." Another example is speaking of impending death as "the hovering of angels." In the schizophrenic, the symbol takes the place of the original idea unnoticed by the patient.

VAGUENESS AS OPPOSED TO THE CONCRETE. General vague notions are utilized where a concrete statement would be the expected reply. An example is the schizophrenic's explanation for a quarrel with an attendant over a cigarette, "Because I hate to be in the hospital." Here the general unrest at confinement is given as the specific cause for some inappropriate action.

MEDIATE ASSOCIATIONS. Mediate associations are often found in association tests in schizophrenics. Example (from Bleuler): To the stimulus "wood" the patient responded "cousin." This because his cousin was dead and buried in a wooden coffin.

LACK OF A CENTRAL IDEA OR "SKIDDING." Patient's productions are such that neither the patient nor the physician know why such ideas are expressed. The train of thought sometimes resembles a flight of ideas, but the absence of an objective becomes noticeable through the lack of emotional tone. In a true flight of ideas, an objective is present, but this objective is frequently changed due to external or internal stimuli. The objective is also clothed with the appropriate affect in a true flight of ideas. Bleuler's example of skidding is the essay "Blossom-Time for a Horticulturist" which is reproduced in part:

> At the time of the New-Moon, Venus stands in the August heavens of Egypt and with its rays of light illuminates the harbors of commerce, Suez, Cairo, and Alexandria. In this historically famous city of the Kalifs, there is situated in the museum of Assyrian monuments from Macedonia. There plantain flourishes next to maize columns, oats, clover, and barley, also bananas, figs, lemons, oranges, and olives. Olive oil is an Arabian liqueur-sauce, with which Afghans, Moors, and Moslemites carry on the breeding of ostriches. . . . "

CIRCUMSTANTIALITY. A frequent change in the direction of the train of thought, but the goal idea is maintained and ultimately reached. There are numerous digressions, but the general pathway of the story is incapable of distinguishing between essentials and nonessentials, and thus must go into unimportant details as fully as into the main issues. This condition is found in schizophrenics and organic psychoses, being especially common in the senile states.

GENERALIZATIONS. In this symptom a thought which logically applies to one person or subject is applied generally. An example would be a schizophrenic who felt that every reference to the color red implied prostitution and was an invitation for coitus. This symptom resembles the stage of generalization of associations seen in the very young child.

IMPAIRMENT OF LOGICAL OR NORMAL ASSOCIATIONS. Example: To the test "Two children fell into the river. One was rescued and one was . . . ?," a schizophrenic responded "saved."

OBSTRUCTION OR DEPRIVATION OF THOUGHT, BLOCKING. The patients may say that their thoughts are drawn away from them by some outside force. In this condition the progression of thought stands still for a short period of time, and the patient can find no cause within himself, so he projects it to some outside force. The obstruction may last for a few minutes or many hours. When the obstruction is over, a new thought, which had no connection with the obstruction, may appear. For example, a schizophrenic who is asked, "Where is your wife?," responds "My wife is . . . " and is unable to go on. After a few moments of sterile effort he may continue feebly with "she works." A physical analogy would be the sudden closing of a valve on a stream of water. When the obstruction disappears, the stream of thought goes on as freely as before.

BREVITY OF ASSOCIATIONS AND IMPOVERISHED THINKING. This occurs in many cases. In this phenomena the patient is satisfied with an abbreviated thought without carrying it on to its logical conclusion. For example, a patient reads a fable but cannot repeat it unless prompted step by step. Or when asked to tell of his divorce a patient answered only "I am divorced." Why? "She ran away." Why? "We didn't get along." etc. This symptom also resembles many of the egocentric productions of the child, but probably differs in the affect present.

PERSEVERATION. Perseveration is the persistent repetition of one word or group of words, in spite of the individual's attempt to change the topic, and the observer's attempt to introduce other stimuli. For example, a patient is asked how old he is and answers, "I'm 28." He then continues to repeat "I'm 28" to subsequent questions in spite of his effort to answer relevantly. In most cases the answer was relevant to the original question but bears no relation to the succeeding ones. This occurs in many organic cases and in some of the advanced schizoid disorders.

NEOLOGISMS. Neologisms sometimes occur. They are words of the patient's own making and are often condensations of several other words. Originally they have special meaning for the patient. An unusual example of this is the so-called "Quintalk" of the Dionne children which is a language they have developed for themselves and which they alone understand. Another example is a patient who felt that he had special powers due to "stagnatic electricity" in his body.

RAMBLING. This is very common. Garrulous patients will relate a long story, mixing heterogeneous portions with no attempt to combine them into a concise story. There is an apparent loss of the goal idea. For example, a patient tells of his travels, his work, and his numerous marriages, without any attempt to weld it into a coherent account of where he has been or what he has seen.

OMISSIONS. Omissions are seen, the patient leaving out a significant phrase or sentence in his expression of an idea. For example, a patient states, "The train came roaring down the track. . . . Forty persons were killed." He omits the significant sentence, "A portion of track was washed away in a flood and the train was wrecked."

PSEUDOPROFUNDITY. Often pseudoprofundity is seen and consists of simple thoughts expressed in aphorisms, poetry, etc. For example, a patient who wished to say that his parents did not get along together stated. "They get along like sulfuric acid and sodium hydroxide," or one who described his wife as "more beautiful than the temples of Rome, and more imposing than Gibraltar."

ASYNDETIC THINKING (CAMERON). Asyndetic thinking is a lack of integration of speech, ideas that are relevant are grouped together without any attempt to make a logical connection between them. For example, a patient says "The wind blows because it is time to blow." "The sky makes it blow." "Because it is high in the air." Similar examples of this reasoning are seen in the child in the prelogical phase, and in this sphere are referred to as juxtapositions.

METONYMIC DISTORTIONS (CAMERON). These are felt to be due to faulty concept formation. In this symptom the patient fails to make a precise choice of term with the result that the expression is only an approximation of the original theme and requires translation. For example, a patient states his body makes a shadow "because it hides the part of the light that is used for full room capacity or area capacity which you intervene."

There are undoubtedly other examples of disorders of the thinking processes but familiarity with the above material will greatly expand one's file of examination and increase his understanding of the behavior and activity of the psychotic patient.

The examination for thinking disorders may be conducted in a variety of ways. Various authors have offered cleverly devised tests in which one must associate likes and differences of figures. Some are more complex and require the formation of new concepts before the proper association can be made. Other tests use proverb interpretations, incomplete sentences, word definitions, word associations, and simple problems in logic as the basis for the test situation. All of these procedures are helpful, but they all share a common defect to a varying degree; that is, the psychotic who is only moderately disorganized is able to meet the test situation and gives the usual "normal" response to the test, because he appreciates the test situation and has enough preservation of affect to make every effort to meet it adequately. The same patient in spontaneous conversation, or in a question-answer interview may show a wealth of material representative of disordered thought, probably because in this latter situation he is rather indifferent to the reaction of his audience. We have had success in demonstrating these aberrations in the phenomenon of thinking in the patient's spontaneous conversation and in essays or letters to relatives, as well as by use of any of the more formal tests. The Rorschach experiment also demonstrates disorders in thinking.

SYMPTOMS MANIFEST BY CHANGES IN EMOTIONAL RESPONSE. The changes in emotional response are another prominent feature of schizophrenic disorders and Bleuler considers these changes, plus the disorders in thinking, as the primary or basic symptoms. The emotional response is usually inadequate, the patient being apathetic or relatively indifferent to the emotion-producing events in his environment. This indifference is sometimes called emotional blunting or "planed off" affect. At times the emotional response is inappropriate or concretely schizophrenic, the patient laughing at sad stimuli, etc. In many patients the emotions are mixed and the patient cannot seem to decide whether to be angry, happy, or sad, and this perplexity and indecision or equal weighting is called ambivalence. When the emotional reaction is inappropriate to his ideas or thoughts at a given moment, it is spoken of as a dissociated affect. All of these changes are described in terms of the examiner's ideas, beliefs, and feelings. The patient's behavior becomes more understandable if we consider the reasons for it. In this disorder, the patient has ceased looking to his environment for either emotional stimuli or satisfaction. He has, in the course of development of his illness, become almost wholly dependent upon himself for emotional satisfaction. He realizes his ambitions and fulfills his desires on an autistic level, and having found these satisfactions within himself he has little need or desire to please or be pleased by the persons in his environment. This results in seeming apathy and indifference to the people about him. The inappropriate affect is often understandable if one considers that the patient has his own special concept of the situation, and his smile on receiving word of a relative's death may be prompted by his belief that this note is proof of his power and that the death occurred because he wished it to be so. Other patients seem to be under a great emotional strain or tension. This is manifest by sweating, sighing and motor restlessness. At times the tension is discharged in homicidal or destructive outbursts that are unprovoked by the environment, violent, and usually of short duration. As a rule one finds the tension is secondary to the ideas and delusions the patient is entertaining, but in others the reason is deeper and eludes detection. Patients with this type of emotional reaction are usually in the acute phase, and with chronicity and institutional care, most of them develop the characteristic apathy, failing to respond even to their own phantasies. Patients in the paranoid group show less disturbance in the emotional reactions than the other forms of schizophrenia, but some distortion appears in all cases.

SYMPTOMS MANIFEST BY SPECIAL PREOCCUPATIONS, HALLUCINATIONS, AND DELUSIONS. These special trend reactions are so frequent in schizophrenia and so far removed from normal human experience that their presence is sometimes thought to be specific for the schizophrenic group of disorders. This is not true, however, and while these symptoms do reach their ultimate in chronicity, absurdity, and bizarrity in the schizophrenias, yet they are encountered in many other psychotic reactions. Many patients suffering from this illness are suspicious, feel they are misunderstood and mistreated. Many have definite persecutory ideas, feeling that various fraternal, political, religious, or family groups are organized to persecute, harass, and harm them. Some believe they are being gassed, poisoned, hypnotized or influenced by radio, television, or by God. Others interpret innocent actions of other persons as referring to them specifically, so-called "ideas of reference," and offer an excellent example of the concrete thinking described by Goldstein. Many patients have passivity feelings, believing they must do as the "voices" tell them, and disclaiming any personal responsibility for their thoughts, words, or actions. Hallucinations are common in schizophrenia, being found in 60 to 70 per cent of these patients. Auditory hallucinations are the more commonly encountered, but they may involve any of the sensory fields. The content of the hallucination is colored by the patient's preoccupations, education, and past experience, and represents a projection of his phantasies and desires. Some patients in this group have weird, somatic delusions, believing their organs are gone, feeling electricity in their body, having intercourse by remote control, and similar silly ideas.

SYMPTOMS MANIFEST BY DEFECTS IN INTELLECTUAL RESOURCES. The intellectual reactions are not seriously impaired in schizophrenia. The changes present are more apparent than real and are due to inattention and indifference rather than to loss of capacity. The judgment is impaired in terms of the disturbance in emotion, thinking, and the imaginary experiences. Most of these patients have little insight, failing to understand that the beliefs and experiences which are so vivid to them, are peculiar to themselves and lack meaning to other people. In the early phases, some patients realize they are undergoing some serious mental disturbance. They may seek aid at this time and if they do it is the optimum time for treatment. In this initial stage, some patients become worried over these mental changes, become depressed in reaction to them, and at this time may commit suicide. In most cases, however, the transition to acceptance of a belief in their symptoms is accomplished smoothly and the things we call delusions, imaginations, and so forth, represent the facts of reality to the patient.

It is customary to divide the schizophrenias into four groups, originally described by Kraepelin, but the student is advised to avoid hairsplitting attempts to differentiate these subgroups too rigidly. There is probably quite a gulf between the paranoid and the other forms, but by and large one is apt to find hebephrenic, catatonic, and paranoid symptoms in a vast majority of schizophrenics. In the *simple* type interest is at a low ebb. There is apathy and strange behavior, and delusions and hallucinations are either abortive and fragmentary or absent entirely; in *hebephrenia*, usually beginning at an early age, there is silliness, unexplained smiling, laughing, grimacing, mannerisms, and peculiar and changeable ideas which are absurd and grotesque; in *catatonia*, usually beginning a bit later than hebephrenia, there is negativism and conduct peculiarity with phases of stupor or excitement, marked by impulsive, queer, stereotyped behavior, and hallucinations; in the paranoid type, averaging much later in life in its onset than the other forms, and occurring as late as 40 or even later, there are delusions, particularly of persecution or of grandeur, often moderately well systematized for a time at least, and hallucinations.

The following cases illustrate the foregoing material and are typical of the variety of schizophrenic symptoms seen in any psychiatric clinic. The first two cases illustrate the history of patients who develop schizophrenia. They are also good examples of patients who have a mixture of catatonic and paranoid symptoms with rich hallucinatory and delusional content.

This young man is 30 years old. One maternal uncle committed suicide in middle life but otherwise his family history is negative. His mother, who gave the history, described him as a quiet and "good" baby and child. During his 'teens he was shy, diffident, and reserved; did not like athletics, read a great deal, liked to be alone in his room, was painfully awkward and embarrassed at parties, and was afraid of girls. He did exceedingly well in his studies and had excellent grades in high school and college. In college he had no friends excepting his roommate. He wanted to study medicine, and in 1924 was admitted to a Class A Medical School. His first year was uneventful. Apparently, the second year was hard for him. He complained that the work was difficult, developed headaches, could not concentrate, and lost weight. He said several of his professors had "it in for him" and had him "spotted for a flunk."

One night, while alone in his room in a students' boarding house, studying for final examinations, he suddenly leaned out of the window and screamed loudly "You dirty s—s of b——s, stop flashing that light in my eyes." Then he was brought to the psychopathic pavilion.

He has many of the classical symptoms of schizophrenia. Often he is mute, but from time to time he will talk in a fragmentary manner about his persecutors. He calls them "mentalists." They disarranged his thoughts so that he could not study medicine. They call him vile names—"dirty dog," "sex pervert," etc. At night they direct a powerful "N Ray" at him and rob him of his semen, etc. You will note that as he speaks of these happenings, he is little or not at all disturbed emotionally. He is not angry or violent or even worried, as one would expect a man to be who believed himself subjected to abuse, torture, and persecution. Often he simpers in a silly fashion; there have been several periods of catatonia during which he was mute, made no response to pin-pricks, had to be fed with a nasal tube, and would retain his limbs in awkward positions for long periods of time.

You have observed that his coat is decorated with odds and ends of brightly colored trash. On his head he wears an old overseas cap with a tin gilt star pinned to it. Occasionally, he raises his right arm extending the index finger. From the notes it appears that this indicates that he is "the Highest Potent." In spite of this he does various odd chores about the ward and is not above retrieving and smoking half-consumed cigarettes.

The second patient is a young woman, 23 years old. Her father was a ne'er-do-well who served several short sentences in the county jail for various minor offenses.

Finally, he was shot and killed in a street brawl. Her mother and two brothers and one sister are plain, uneducated, honest, hard-working people.

Her mother tells us she was always a "good" girl but very different from her sister who liked boys and parties. Mary, the patient, was always serious and "worrisome." In school she studied hard and "fussed" about her lessons. She went to church a great deal and was very conscientious. She was meticulously neat and clean and modest and did not even like her sister to see her unless she was completely clothed.

As a child she was not given any sex information and was not prepared for the first menstrual period. When this appeared she was greatly upset and felt that she had "sinned."

She worked in a stocking factory and did routine work well. She wanted to do better, however, and in addition to her work she went to night school. This she had to abandon because of poor health. She was bitterly disappointed and called herself a "failure."

She did not get on well with the other girls in the factory. They thought she was "high hat." She did not "know how to talk to them" and was shy and often painfully embarrassed when they discussed their boy friends or told off-color stories. She had an acne skin eruption and thought "the girls talked about it."

Her mother states that "Mary wanted the boys to like her and wanted to be nice to them but did not know how." Her sister teased her about this. One young man did seem to be very fond of her and called a number of times to see her. Following his last visit, Mary became "moody," spoke very infrequently, "stared," and occasionally smiled without reason. One afternoon, soon after returning from work, she went into the bathroom, took off all her clothing, and lightly gashed her wrist with one of her brother's discarded razor blades. Then she began to scream and continued to scream for 15 minutes. Her mother came to her assistance and she was brought to the psychopathic pavilion. This was seven months ago. Soon after admission she became catatonic and for two months was mute and had to be tube-fed. She was often untidy and would lie on the floor with her arms outstretched in the shape of a cross. Occasionally she emitted piercing screams and once talked in a high-pitched voice for about 30 minutes, scolding, and apparently answering voices.

During the past few months she has been quiet. The most frequently occurring adjectives in the nurses' description notes is "silly." Hour after hour she smiles in a foolish, vapid manner. Sometimes she whispers and when the words can be distinguished, they are "Queen of Heaven"—"Heavenly Lover"—"Immaculate Conception."

She does not show any interest in occupation in the shop but helps carry trays in the ward.

The third case is an example of paranoid schizophrenia and is presented in some detail because it illustrates a characteristic developmental history, the prepsychotic personality pattern, and a characteristic fairly well-organized delusional system seen in this type of reaction. The symbolic activity is illustrated and interpreted by the patient in the accompanying photographs.

About March 1921, the patient complained of hearing voices talking to him. Patient said that these voices were "razzing him" in English, and a man named F. was "tutoring him" in German. He averred that two men, McC. and F., led the Detective Bureau to watch his movements continuously. Frequently remarked that he was under the influence of electric machines which kept "boosting" him up and down. He thought that at times his body was full of electricity. For eight months the voices have been changed, they refer to his wife, frequently call him a "poor simp" because he did not "get wise" to his wife sooner, and because he did not

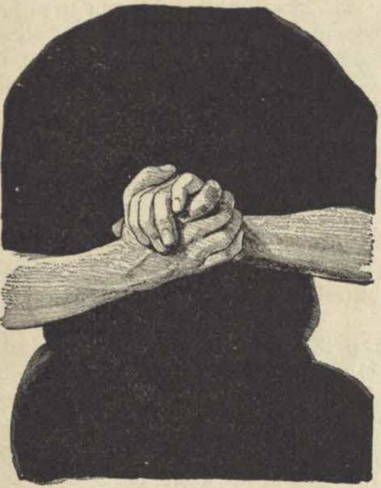

FIG. 18. Physical brotherhood.

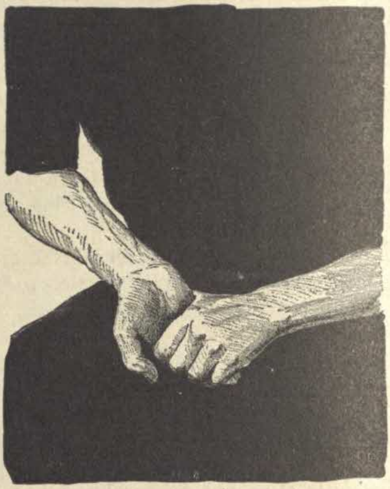

FIG. 19. Spiritual brotherhood. Differs from Fig. 18—the palm of the right hand being turned outward, fingers grasped in the left hand.

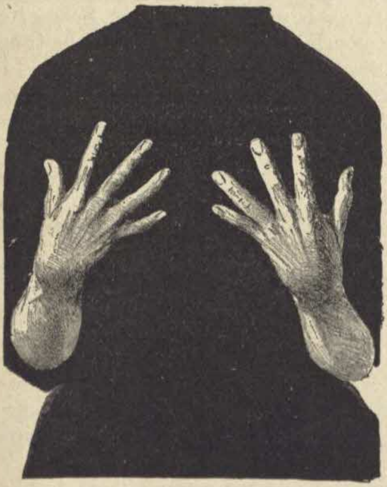

FIG. 20. The ten commandments shown by spreading out the fingers wide and held away from the body.

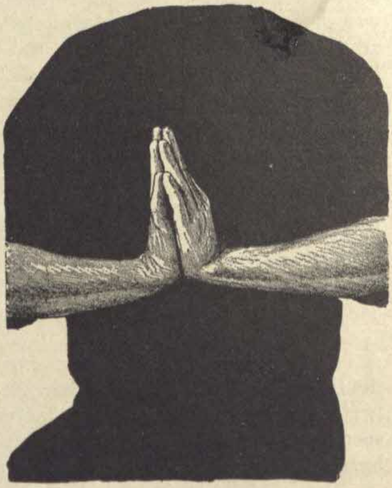

FIG. 21. Usually succeeds.

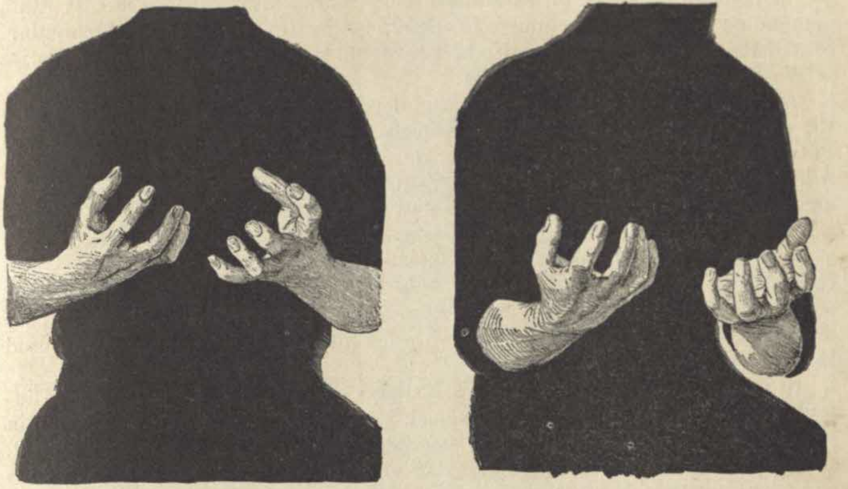

FIG. 22. (*Left*) Spirit of God coming in. The hands held in a receptive posture. (*Right*) Spirit of God going out.

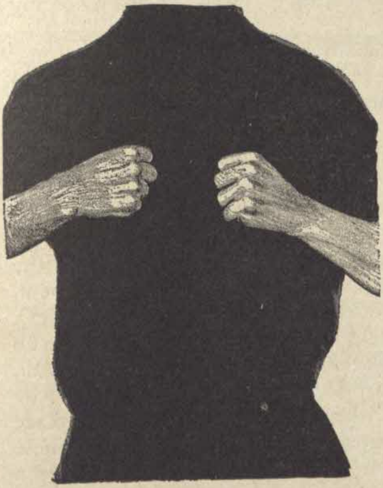

FIG. 23. We must all pull together—unity. Arms tense, muscles quivering, patient pulling his arms apart.

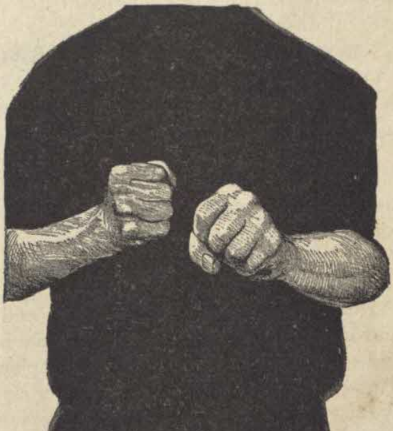

FIG. 24. Power. Determined by a lateral motion of arms like a driving rod.

know "there was an organization working directly against him." This organization operated through the Detective Bureau according to the patient's statement. In the afternoon of the day of his admission he created a disturbance in City Hall, demanding to see one of the judges in order to get justice and was very threatening. Stated that if could not get justice here he would go to the Department of Justice in Washington and see the President.

PERSONAL HISTORY. Normal birth and development. Born June 14, 1882. Had the usual childhood diseases with no sequelae. No serious accidents or operations. Patient began school at the age of five, got along very well, graduating from High School at the age of 17. After graduation from High School he went to work at architecture and civil engineering. He always held very good positions with good salary since he was considered capable and efficient. His habits were normal as far as could be discovered. Patient was married when he was 23 years old and has two children who are now 12 and 14 years of age. He was always jealous and suspicious of his wife, frequently accusing her of receiving attentions from other men. These difficulties increased until May 1920, when his wife left him and has since refused to live with him.

GENERAL MAKE-UP. The patient was always considered to be a very keen, intelligent, but suspicious type of individual. He frequently showed this suspicion in his work by complaining to his fellow associates that his ability was not recognized. He was always distrustful of his superiors and would have been discharged if his work had not been so efficient. His fellow associates considered him a very odd, erratic, peculiar type of individual, and by some he was considered a genius.

FAMILY HISTORY. Father died at the age of 50 from pneumonia. Mother is living and well. She is considered to be a highly nervous woman but has had no definite breakdowns. Three brothers and three sisters are living and well. No history of any mental disease in the family.

MENTAL EXAMINATION: *General Behavior.* Patient was very suspicious, keen and alert. His demeanor was self-assertive and he was inclined to be antagonistic and surly. He demanded his immediate freedom and was very belligerent towards the physicians who admitted him.

Stream of Talk and Activity. Talk was spontaneous but guarded, irrelevant, and incoherent. He uttered neologisms, such as, "People are torturing me. I must follow the lead. People are razzing me." Patient said that this trouble had been going on for many years.

Mood and Special Preoccupation. Patient's mood was inadequate. Despite the seriousness of his persecutory ideas, he did not appear to be much troubled by them. Paranoid delusions were prominent and were directed against the two men, McC. and F. of the Detective Bureau, whom he thought had been following him for six to eight months, hounding him from place to place, and continuously on his trail. They have tried to do away with him; have tried to dope him; have set his wife against him; and now that his money is gone, they want to arrest him and place him behind bars for life. He stated that he had tried in many ways to avoid these men, that he has gone to New York, Boston, and Baltimore and Washington without being able to get rid of them. They spread various reports about him, particularly about his character and his treatment of his wife, etc. On close questioning the patient stated that this had been going on for the past eight years, but it had become especially troublesome eight months ago. Then he felt that things had "come to a head," so he bought a revolver and made plans to protect himself either by taking the law in his hands or by having legal proceedings instituted against these men and the organization that they were leading against him. He could assign no definite reason for his persecution.

Hallucinations. Patient heard voices talking to him. The voices are chiefly those of McC. and F. who "razz him and torture him." They refer to intimate affairs with his wife, make fun of him in various ways, say that they will get him. The patient denied hallucinations in the visual field.

Ideas of Influence. Present and prominent. Felt he was under the influence of electric machines, including x-ray machines, induction coils, etc. "Electricity goes through my body."

Sensorium and Intellectual Resources. Patient was oriented for time, place, and person. He had a fair knowledge of current events and his memory was very good for both remote and recent events. His grasp of general information was excellent. He gave a very critical review of political events occurring recently, describing the European situation, etc. Retention was extremely good. Retained eight digits. Gave addresses correctly at the end of five minutes, as well as named objects shown. Calculation was unusually good. Could multiply three digits by three digits correctly. The seven from a hundred tests was performed quickly and accurately. Speech and writing were normal. Patient felt that he should have justice, that the courts of the city should help him, if not, he would go to Washington or take the law in his own hands, and defend himself against his persecutors.

PHYSICAL EXAMINATION. Patient was in excellent physical condition. Height 5′6″ and weight 150 pounds. All systems normal. Blood pressure 125/80. Laboratory reports including urine, blood chemistry, etc., were normal in every detail.

During the patient's stay in the hospital his mental status showed practically no change. He did not appear to have deteriorated further. He adhered to his delusions of persecution, but these delusions varied. At times they were directed against his wife and her relatives, later against various physicians, and again, against the Detective Bureau. He had absolutely no insight into his mental condition. He talked irrelevantly and incoherently on many occasions. He appeared to be always on his guard in his attitude toward ward patients and visiting relatives with whom he frequently refused to talk. He was committed one month after admission. Since that time he has deteriorated slowly.

The fourth case is an excellent example of a patient suffering from paranoid schizophrenia, who has been followed for several years. With the aid of modern treatment repeated with each flare-up in symptoms, she has had long periods of satisfactory adjustment, but with frequent exacerbations of her chronic symptoms.

Patient, a married white female, age 42, at the time of admission on August 8, 1938. According to the complaint, the patient had been accusing her son, her mother-in-law, and her friends, of attempting to poison her. She also believed that her husband had been unfaithful. According to the informant, an elder son, the patient has had great difficulty with her husband and has accused him of being unfaithful since shortly after their marriage 23 years prior to entry in the hospital. On several occasions she has been admitted to general hospitals for a few weeks rest for "nervous symptoms," consisting of temper outbursts directed toward the husband. During the period of her son's memory, these attacks have become increasingly severe, and accordingly during these attacks much of her conversation is incoherent and irrelevant. She has also expressed the fear that her money will be taken from her and that her home is to be sold. She has also felt that mariahuana fumes and ether are being used to poison her. The son states that she has always been inclined to read personal meanings into gestures and other actions of her friends and relatives. The developmental history reveals that the patient has been an interested active person, has played several musical instruments, had been a good student. Prior to her marriage, and occasionally since, she has worked either as a clerk in a drug store or in a music store. At one time she worked as a secretary in her husband's office. The son characterizes her as being talkative, pessimistic, and vain. The family history reveals a grandmother who committed suicide during a so-called menopausal psychosis, and another aunt who died in a large state hospital with some type of mental disorder, type unknown. On admission, the patient was extremely uncooperative and antagonistic toward the hospital staff. She was very suspicious, and expressed great anxiety concerning her presence in the hospital. Her speech was coherent but her answers to questions were always colored by her paranoid delusions. She tended to be overproductive except when she felt the person she was talking to was against her, then she would refuse to talk. She was having auditory and olfactory hallucinations. She was well oriented for time, place, and person. Memory was adequate. Clinical and laboratory examinations were performed in considerable detail and all proved to be within normal limits. Diagnosis was paranoid schizophrenia and insulin shock therapy was instituted. During the third week of insulin shock treatment, the patient began to show some improvement in her coöperation and expressed some insight concerning her delusions. Her attitude toward her son and husband improved remarkably, and while she still felt her husband had probably been unfaithful to her at times, she became much less antagonistic toward him. The son expressed the idea that his father probably has been unfaithful to the mother but he thought that his mother greatly exaggerated the extent and frequency of this.

At the time of discharge the patient was extremely meticulous of her appearance and we felt, at times, overly careful about being neatly and completely dressed and made-up. The etiologic factors were felt to be an unusually strict moral code drilled into the patient during her childhood and adolescence, she had an extremely poor attitude toward sexual matters and entered into marriage with no understanding of the physical factors involved in married life. Throughout her married life she was extremely frigid and had strong guilt feelings concerning marital relations. Because of this her husband apparently did not derive normal gratification from their marriage and apparently did resort to occasional periods of infidelity. Patient has been unable to emancipate herself from her mother, who is an extremely unstable and dictatorial person. She has also been unable to allow her children to emancipate and develop normally. These children are two very active boys who have attempted to break away from the home, and the beginning emancipation of the sons apparently precipitated the present attack. Following her discharge from the hospital, she was advised to continue follow-up treatment in the clinic. The date of discharge was November 5, 1938. Patient was seen on one or two occasions in clinic, but was not very faithful about keeping up her contact. She was next seen on May 27, 1939, at which time she returned to the hospital with the information that she had gotten along pretty well during the interval until about three weeks prior to readmission. During this past three weeks she had become more hyperactive, irritable, suspicious, and unreasonable. Her son feared she was having another attack and brought her to the hospital.

On readmission the patient was again quite paranoid, expressed many peculiar ideas and had many paranoid delusions. She also had some odd sensations about the pelvis which she finally expressed as being due a fear that the contraceptive suppository she had been using might have injured her genital organs. She then stated that she had been having sexual relations with another man and was having considerable guilt feelings about this. During the interval, the patient's husband died but she states that she believes he is still alive and states she is inclined to believe in reincarnation. She frankly confessed to auditory hallucinations, stating she could hear her husband's voice. When asked if she had visual hallucinations, she became very angry, stating that that would be a sign of insanity. Physical examination again was entirely normal. Laboratory examinations are within normal limits. This patient was committed to a large state hospital on June 27, 1939 for further treatment and care. Patient remained in the state hospital until September 23, 1939, at which time she returned to her home in Denver on parole and stayed until December 1939, when she returned to the large state hospital and was finally released on June 23, 1940. In the interval between that and the time of her admission on December 16, 1942, the patient had gotten along fairly well. She had worked in various stores around town, had managed her small resources rather well, and had made an adequate adjustment in the community. She had been carrying on sexual relations with a married man in town with apparent satisfaction to herself, this being in sharp contrast to her behavior during marriage. Recently she had become rather upset over a business deal in which she lost a small sum of money. She felt that somehow the Germans and Catholics were mixed up in her loss of money. She was also quite distressed over her young son's presence in the Army and felt that he had committed some crime for which he was to be punished. During this admission the patient continued to show paranoid delusions, felt that she had been inoculated with syphilis and the doctor was treating her for syphilis unknown to her. She also felt that her elder son was against her and he and his wife were attempting to deprive her of all of her property. She had ideas of reference, but no hallucinations were elicited at this time. Clinical and laboratory examination were still entirely normal, although the patient has gained considerable weight since her last admission. Patient improved in a few days after admission and most of her symptoms disappeared except for the paranoid trends, and she was discharged without any special treatment. She was re-admitted on May 11, 1945 following a period in which she became confused and during which time she became neglectful of her person. She seemed unable to care for herself, and would do odd things, such as bringing the neighbor's washing into her own home, forgetting to buy food, and neglecting to send the laundry out.

Mental status examination revealed the presence of marked confusion and bewilderment. She talked slowly and with much hesitation. She had difficulty in expressing herself clearly. At times she would become rather agitated because of fears produced by her paranoid ideas. Because of the patient's deterioration and because her symptoms consisted merely in neglect of her person and some confusion, it was not felt necessary to give her further shock therapy and she was dismissed in the custody of her family with advice that they give her the equivalent of special attendant's care at home. She was dismissed and has not been seen since that time.

The fifth case is a good example of simple schizophrenia.

F. R. is a 29-year-old white male, brought to the clinic by his mother for an examination. She states that he is worried about himself, has no ambition, and cannot seem to decide what he wants to do. Mother states that the illness had its onset in infancy when he had colitis. This, she states, was caused by his being fed a pickle by one of the neighbor women. She states that since then he has had a variety of diagnoses being called hysteria, schizophrenia and so forth. She states she is not satisfied with any of these opinions and wants a new one. Mother states that following the pickle episode as a child, he was critically ill but recovered. His parents were separated while the patient was an infant and it has been necessary for the mother to work. As a result he has been cared for by servants. She states that at one time during his infancy they had a luetic maid. The family were all checked with Blood Wassermann and all found to be negative. She states that when he was 16 they again had a luetic servant, but they were all tested again and at this time, the patient had a 3+ Blood Wassermann. She states he was given three odd shots and had no further treatment. The patient told an uncle that he had contracted the infection while away on a merchant vessel as a sailor. Also during his early childhood the patient had an abscess which was thought to be a sarcoma but an operation was performed and the patient recovered. Mother also states that he had malaria during childhood. After recovering from the malaria, he had an accident and bumped his head. He states this made him feel nervous and a few weeks later he began to think he was losing his mind. He developed ideas that people were talking about him. One physician told him to go to New Orleans, and his mother took him to a local physician. She states he was placed on vitamin therapy, left the hospital and had a quarrel with one of the doctors and with the police department. He refused to stay in the hospital and returned home. Mother's reaction to his illness was that it wasn't serious. She and the patient obtained a book on the subject, read up on it, and following this she states he seemed to improve. He then took a course in flying and progressed to the point of soloing. He then entered the Army as a private, was promoted to corporal, and the mother interfered, and after talking to his commanding officer, the patient was made a flying cadet. He states he was unable to relax at this job, went A.W.O.L. and came home. He returned to the Army airfield and when they arrived for him, the patient had gone to get a haircut. He then returned to the psychiatric unit at the airfield and was dismissed. He then consulted another physician who gave him four electroshock treatments. These made the patient feel so good that he quit and went to Colorado on a fishing trip. He then volunteered for the American Field Service as an ambulance driver but was rejected on psychiatric basis. At this same time he began to drink heavily and while drinking on a fishing trip he was involved in an accident and almost drowned. Mother then placed him in the hands of a series of psychiatrists in rapid succession always withdrawing him from treatment in each instance. Patient finally committed himself as a voluntary patient to one of the state hospitals but after a spinal puncture was performed decided to leave. Throughout the examination the mother was hovering, overprotective, and oversolicitous to the patient's welfare. Physical status was thin but otherwise entirely normal. Patient was coöperative. Mental status examination revealed a rather tense and perplexed facies. When not talking he would frequently sigh deeply, groan, and touch himself. He thinks these symptoms are due to the fact that he is short of breath. There is great difficulty in formulating his words and expressing himself clearly. After explaining the origin of his pain he would go into a long, irrelevant, inconsequential story. Psychomotor activity was definitely reduced. He seemed rather indifferent to most of the events in the environment although he would participate in conversation if someone else took the initiative. At times he would become annoyed and irritable. This was most marked when his mother was present but was also seen at other times. There was no disturbance in sleeping or in eating habits. Patient had no hallucinations at the time of the original examination but had many somatic preoccupations which approached delusional proportions. He also complained of difficulty in thinking, stating "words become stuck in my head." He always indicated the right parietal region as the area in which the words became stuck. He states that in the past he has imagined he heard voices and had some ideas people were after him but these ideas were no longer present. The patient has some insight of a superficial sort and stated that he felt like someone who was standing on a hot stove. He believes that he will ultimately "blow up" and become uncontrollable.

It was felt that circumstances of a broken home, an oversolicitous mother and the effect of her concern over his condition had resulted in this state. Patient has been followed for approximately five years and during this time has continued to show little change in his course. Mother has continued to take him from one physician to another, seldom following the recommendations of any unless it happens to be her own concept of his condition. The patient has been institutionalized and is in a chronic schizoid state. The somatic preoccupations and delusions are essentially unchanged.

The following is verbatim material taken from recorded interviews of a schizophrenic patient who was receiving psychotherapy along with insulin shock therapy.

Patient is a 35-year-old male brought to the hospital following homicidal attempts against his family. These interviews were made while the patient was in a convalescent period: "I mean I actually was just stewing over nothing and I knew it at the time but there was nothing, but there again it's hard to explain why I should do it when I knew there was nothing to it but I did nevertheless. But, I had that feeling or kidded myself into thinking or found that the bottom had kind of dropped out on me, that things had just gone back on me and things I had been able to depend on all that time had kind of given away, and so I turned to the Bible and just opened the Bible. I had often heard if you would just open the Bible and stick your finger on a scripture at a time of crisis or a time like that, God actually would, you know, would help you, I mean that the scripture would give the answer that would apply . . . I was going through a certain stage, I actually had the feeling that I was kind of in a wilderness there for a while, I was kind of cut off, not exactly cut off from people—I was living—well, that's about the only way I can describe it—kind of in a wilderness, and the Bible actually made reference to that . . . Last Sunday afternoon I sat by the radio, and the radio—how I did it I can't remember, I can't tell you exactly what word or what program, what the steps were, but I actually went to the garage under pressure. I mean under direction and logical direction I entered the garage to hang myself. When I got to the garage I looked at the middle of the New Testament once more, I suppose the last time before I undertook to hang myself, and it said—the scriptures said "Do nothing until I come," or words to that effect, so I went back into the house, and twice I almost hung myself and both times it was postponed the same way. I had quit my job under direction from the scriptures so I didn't have a job Monday or Tuesday and I stayed home all day and somewhere I had the idea that my wife and I should quarrel . . . I was afraid something was going to happen to my family and there was that threat that something would take over and that some tragedy would happen . . . well, for the past week now things have been much better, better than they were Sunday—in fact, over the weekend—in fact, as I told you things have—it's hard to describe—it's just that they appear in a normal light, I mean my life looks more like something that I can live. I can read a newspaper up here and look at the headlines and I can see it and look at it and think, well, that means this. I see all things at this time that I had seen in another light then. Now I think I see them in a normal light."

The above material illustrates the interpretation of environmental events in terms of one's own ideas of thoughts, the so-called projection of one's wishes on the environment. As is obvious from the above interviews, the patient developed good understanding concerning the nature of these ideas and with the combination of psychotherapy and insulin therapy obtained an excellent remission and at the time of this writing has returned home and to work.

An occasional patient will be seen who shows a very acute malignant-appearing schizophrenic-like psychosis. Some of these patients will be mute with catatonic posturing and show all the signs of an acute schizophrenic stupor. Others will show an acute hallucinatory or paranoid reaction in the setting of a clear sensorium and look like an acute paranoid onset of schizophrenia. The factor that distinguishes these patients from the ordinary schizophrenic group is that they tend to clear up in a matter of two to seven days without anything special in the way of treatment. In some instances intravenous amytal and prolonged rest will bring about a very prompt recovery. These patients have been seen by the authors in two settings. The first group occurred in the days of the C.C. Camp, when youngsters from underprivileged homes were placed for the first time in a barracks life far away from home and often in isolated communities. Some of these youngsters, after receiving much good-natured kidding, often being the butt of the rather crude jokes of their fellow workers, would develop acute schizoid reactions. Because they cleared up promptly it was felt they were not properly diagnosed as schizophrenia and at the time the local term for them was "malignant homesickness." In all of these cases the patient cleared up with a single amytal interview and with assurance that he would be discharged to his home. During World War II, many malignant schizophrenic-like reactions were reported, most of them occurring in a setting of prolonged fatigue and in combat situations. They were frequently dubbed "three-day schizophrenia." Most of these cases recovered with amazing celerity. Sometimes the clinical picture was definitely catatonic but other schizophrenic manifestations, including paranoid reactions, were encountered. At first these patients were evacuated, only to have recovery occur en route in a few days. Apparently physical stress, long-continued emotional experiences may elicit a schizophrenic-like response even in a well-integrated personality.

Another type of reaction which is a part of the schizophrenic picture is the so-called "folie à deux" phenomenon. This is an old term used to describe cases in which one member of the family, either a sibling, parent, husband, or wife will develop a typical schizophrenic psychosis from one of the above varieties. A second member of the group may develop a psychosis simulating the schizophrenic psychosis but the psychosis in the second person is on a hysterical and imitative basis. At the onset some of these cases so closely simulate the original disorder that it is at times almost impossible to distinguish which one is truly psychotic and which one is showing the hysterical, imitative behavior. In fact, in some instances, both patients appear to have an identical psychosis but in most carefully followed reports it will be found that one responds very dramatically to therapy and the other tends to run the usual course of a serious schizophrenic episode.

Diagnosis. Perhaps the symptomatic markings have been made sufficiently clear so that the percentage of diagnostic accuracy should be fairly high. The chief differential diagnostic difficulty concerns manic-depressive psychosis. Theoretically, and on paper, the distinction is simple, but in actual practice it may for a long time be surprisingly difficult. In given cases, the diagnostic day is only saved by a careful review of the patient's life history in longitudinal section. Here one may utilize advantageously an evaluation of the prepsychotic personality. In the manic-depressive the predominance of social, extroverted and syntonic qualities and in the schizophrenic, the prominence of asocial, introverted, and schizoid traits.

From the vantage point of the psychosis itself, the best help is to be attained from a careful estimate of the affective state. If depression exists, it is in manic-depressive evidenced by a definite subjective feeling of sadness and, in general, is of such a type that the detached observer would from the physical and verbal expressions of the patient readily label it as melancholia. In schizophrenia, on the other hand, no strong subjective feeling can be detected and neither the motor expression movements of the patient nor the quality of his verbal explanations stamp the depression as genuine and of the type that is ordinarily experienced in miniature in normal mental life. In other words, there is in the schizophrenic, a discrepancy between his mood and his thoughts.

The excitement of the manic-depressive is in fairly close contact with the environment; there is in it a connectivity and sequence of thought producing so-called "flight of ideas"; whatever the prevailing mood may be, it is genuine as judged by the usual criteria and finally, it has a rather prolonged course. In schizophrenia, the catatonic and other excitements seemingly are not related to the environment nor do they derive stimulus from the surroundings. The thoughts expressed in the excitement seem like discrete islets not connected with each other and an analysis of the productions would indicate poverty rather than profusion of thought. The emotional expressions would have to be labelled inadequate and contradictory and the excitements are short lived and often appear and disappear many times in the course of the psychosis. Fairly frequently they represent emergences from stupors.

The student may be given some additional help from the table on page 294.

Prognosis. Scientific forecasting or prognosis is a sadly neglected aspect of psychiatry. Too often it is only an echo of diagnosis. If this is so in schizophrenia much that is important and, perhaps, particularly, valuable sources of information and needed treatment concepts will be lost. An opinion as to outcome is only permissible after a thorough review, not only of the psychosis itself, but of the whole life history of the individual, an extremely careful weighing of the potential assets of the patient and an estimate of the chances of recasting his environment. It is very difficult to arrive at any satisfactory conclusions concerning the recovery rate and by various authors it is placed from zero to such fancifully high figures as 80 per cent. In the latter, it is obvious that many reactions that are not really schizophrenic have been included. The criteria of recovery occasions further difficulty since the schizophrenic process may be arrested at various levels below the complete recovery level, descending from partial social readjustments to mere cessation

Table 10

MAIN DIFFERENTIAL DIAGNOSIS OF SCHIZOPHRENIA AND MANIC-DEPRESSIVE PSYCHOSES

Findings in Mental Examination	*Schizophrenia*	*Manic Reaction*	*Depressive Reaction*
1. General behavior and activity.	Odd, incongruous, silliness, irrelevance and incoherence of stream of thought.	Pressure of talk and activity. Flight of ideas and distractibility. Overproductivity.	Slowness of thought and activity. Depressed facies. Underproductivity.
2. Affective disorder present.	Loss of affect of inadequate affect.	A frank elation or quick oscillations.	A frank depression.
3. Trend reactions.	Delusions of various types, ideas of reference, ideas of influence, paranoid ideas. Hallucinations usually prominent.	Expansive ideas to fit in with elation. No hallucinations.	Self-condemnation and self-recrimination to fit in with depressive affect. Hallucinations rare.
4. Sensorium changes.	Sensorium generally clear. Insight usually absent.	Clear. Insight may be present.	Clear. Insight often present.

of certain symptoms permitting life in the home instead of in a mental hospital. The various psychoanalytic schools measure the malignancy by the depth of the regression of the patient to infantile and intrauterine and even phylogenetically primitive stages of evolution. Catatonia is commonly believed to be more favorable in outcome than the other types.

One of us made an intensive study of a group of patients who unquestionably recovered from schizophrenia. The recoveries have all endured more than five years and no psychotic episodes that might suggest an original manic-depressive instead of a schizophrenia have appeared. The recovery rate was somewhat higher in the Russian Jews.

It is important to differentiate between what might be termed a constitutional "shut-in" type and one which is wholly or in part the product of environment. The former develops in spite of normal or at least average surroundings, the latter is a feasible defense against definitely inimical reality. Other things being equal, the first argues for an unfavorable prognosis; the second does not necessarily weigh against recovery. Such a differentiation was possible in two of the patients:

The first patient was markedly seclusive in her own family circle, but on analysis this seclusiveness resolved itself into a not illogical tendency to escape hopeless conditions. Towards those who stood outside the family circle, and particularly those who had superior educational assets, she was not seclusive. On the contrary she was demonstrative and formed passionate attachments for them. Presumably the patient was the highest product of a very diseased family stock and from childhood sought to raise herself above its low and sordid plane. The personal weapons which were unconsciously forged to accomplish this purpose were ambition, a love of the dramatic, and a childlike imitation of those who were admired. Thus, all in all, the personality, particularly the seclusiveness, was a logical defense against an inimical environment. During the psychosis, which was quite schizophrenic, there was the persistent wish to cut herself off from her family.

In the second patient there was likewise seclusiveness, and again it was clearly a refuge from the hard facts of the patient's life. The patient, at 17 years of age, lived on a remote farm; existence was rigid and monotonous, actual necessities were denied and there was that type of stern religion which regards beauty as sinful. Even the mode of dress was prescribed, and a drab and shapeless garb had to be worn. Defective socialization reached a high degree and during a rather typical schizophrenic psychosis this withdrawal was pronounced. An excellent recovery was obtained, however. The prepsychotic mental isolation should have been regarded as a logical reaction, the only available protection against an unnatural environment. In one sense the patient's withdrawal was an effort, not so much to seek relief in unreality as to hold on to the worthwhile things of reality.

In three patients who recovered from what seemed to be clear-cut catatonic schizophrenic reactions, there was a dispositional character best described as stubbornness. It included a marked opposition to the acceptance of contrary opinions and undesirable situations. In one, a physical reaction pattern had become ingrained and "even as a child she would stiffen herself, open her mouth and roll her eyes about if opposed in any way." In another it was the result of a spoiling process in an only child and anger appeared from "the slightest opposition or interference." The third, in childhood, was "markedly stubborn" and "hard to conquer." It is noteworthy that each of these individuals when confronted with concrete difficulties (illegitimate pregnancies in two instances and a serious conflict with the authority of a school board in the third) became psychotic and furthermore manifested blind catatonic outbreaks against this environment. That this "catatonia" may have been merely the pathologic accentuation of prepsychotic "make-up" is worth consideration in prognosis.

In three patients, the personality contained a tendency toward mysticism. In the first, an unusually long retention of the "pretend stage" of childhood developed, in the early teens, into a concentrated interest in Hindu occultism. The second was a firm believer in telepathy, and the third was grossly superstitious and readily influenced. In the psychoses which occurred, the somewhat vague paranoid delusional formation was of the kind which seems to draw its substance from a background of unreality. More favorable prognosis is implied in the supposition that the precox-like symptoms were merely the outgrowth of personal habits of belief and not due to a disintegration of self.

In three patients prepsychotic sensitiveness and paranoid tendencies had existed. These were increased by complicating conditions, and in one case an unsatisfactory marriage sharpened the distrust. The psychoses were all paranoid with much to indicate splitting. There were complete recoveries, however. The important prognostic point is that after all no deterioration of personality was involved.

The percentage of precipitating situations that could be fairly regarded as serious and significant was high in the group of recovered patients.

We believe that an abrupt, stormy onset is a relatively favorable prognostic sign and probably represents the struggle of the personality against the acceptance of the psychotic material. This view is concurred in by Barrett, Sullivan and others. At the onset, too, inhibition is enormously diminished and the patient is very susceptible to outside influences, which may, from time to time later in the psychosis, impart a false appearance of malignancy. Thus, in a woman 36 years old, who made an excellent recovery, the reading of lurid detective stories at the onset imparted a strong paranoid trend to the psychosis and determined a very bizarre expression; "violet ray," "poisoned food," "throwing gas," "dictaphones," "germs," "poisoned daggers shot into the brain," etc.

Finally, it is prognostically helpful to view the patient from the standpoint of his environment and to attempt to form some judgment as to the chances of obtaining a fairly adequate satisfaction from reality. In schizophrenia there are only two stages. First, the stage of conflict which is essentially the struggle against submergence by unreality. Then, if recovery does not occur, there is, second, the final state of pathologic adjustment or unreality. Clinically it is deterioration. Sometime during the conflict, it is reasonable to assume that the chances offered by reality are unconsciously weighted against the surcease of the nirvana of unreality. The question arises as to how far these promises are to be realized and to what degree the psychotic hopes which held back chronicity were fulfilled. It is possible to deal only with the fairly obvious, which must be a very small fraction of the entire picture.

Otto Kant, in reviewing the prognostic criteria in schizophrenia, noted that a persistence of uniform behavior and psychotic symptomatology was a benign sign. Lack of uniformity in behavior and symptomatology was considered a malignant sign only if it occurred in the setting of clear consciousness. A favorable sign was the presence of primary changes in the emotional sphere of either a manic or depressive state. The presence of psychogenic factors in the precipitation of the case were of good prognostic value if environmentally induced but bad if these factors were due to the patient's own attitude.

Treatment: PROPHYLAXIS. Schizophrenia, once it begins, becomes all too early and all too soon a fixed and chronic psychotic maladaptation and it is therefore highly important that the prophylactic opportunities be intensively cultivated. Such opportunities occur strikingly during childhood, and less emphatically but still definitely enough in early adult life. So far, no satisfactory pharmacologic, endocrine, or other physical approach has been derived from pathology, and the better chance is to be found in the possibilities of modifying the personality, variously described as "introverted," "seclusive," "schizoid," etc., upon which schizophrenia is so readily engrafted. The prophylactic objective should be to strive for a more even balance between individual and environment and in some degree "exteriorize" or socialize him.

For the child, the home should be first and foremost a place in which it may find an atmosphere of harmony and happiness. There should be neither unduly harsh discipline nor its opposite, spoiling. Competition between brothers and sisters, in the home for the favor of the parents, particularly when spurred on by "playing favorites" by the parents is pernicious. The attempt to stimulate a child by too constantly pointing out the assets in brothers or sisters usually results in the production of inferiority feelings and is a hazardous process. There should be liberal doses of explanation to the child in the parent-child relationship and particularly should punishment contain a generous leaven of explanation. Companionship with other children of both sexes, outdoors, athletics, and all reasonable socializing influences should be encouraged. It should be made easy for the child to bring his playmates into the home and there should be no risk that things would be seen or heard there that would shame him before other children. Sex and particularly the concrete facts of sex are always difficult for the potential schizophrenic and "therefore effort should be made to prevent phantasy by supplying competent knowledge of sex hygiene, and to discourage rumination by always discussing such matters without emotion and with only a modicum of moralization." Sex instruction should be begun comparatively early in childhood but, naturally in a degree and in detail suitable to the age of the child.

Children have toward their parents an attitude of idealistic-identification. Unconsciously, they supplement their own weakness by identifying themselves in the parents. Here is a strong emotional bond, leading to indiscriminate imitation and containing sources of danger, particularly for the introverted child. The goal of any real psychology of childhood is to obtain for the child a true psychologic maturity. If this is not accomplished, the child is destined for a life of slavish imitation of those who become the emotional surrogates for his parents. The parent-child bond must be loosened not too abruptly but nevertheless, surely, and independence of thought and action must be wisely and continuously encouraged.

Introverted children read a great deal and while their reading should not be too rigidly ordered, yet it should be directed toward types of literature that are not too luridly and completely phantastic. Religion supplies an important need and it should be a source of beauty and inspiration but social and practical too, and above all not grimly fear producing. According to Hamilton:

> The schooling of these children should be carefully scanned and means found to check the tendency to study abstruse and obscure subjects. Rather should socializing subjects be emphasized, that youth may keep close to facts and maintain friendly personal contacts. Primacy in competition of intellects is a goal to be disparaged . . . the choice and any change of occupation should be given consideration by those interested in order to prevent the development of illness; and any inclination to choose a vocation that merely promises compensation for ill-recognized inferiority feelings should be skillfully handled. The vocation selected should be certainly within the capacity of the individual and of a type to maintain his social life on as broad a scale as may be within his power.

These are but a few of the conceptions that may be advantageously utilized in the attempt to prevent the development of schizophrenia not only in children but even later in life in those ingrowing personalities who are in danger of this chronic maladjustment.

Treatment of the Psychosis. Obviously the earlier the actual schizophrenia is treated correctly, the better the chance of adjustment. The accompanying chart graphically illustrates this point.

In combating schizophrenia the psychiatrist needs the inspiration of a workable conception. We know of no better conception than the psychobiologic interpretation of Meyer. It views the patient critically in the long section of his life history and particularly surveys the series of maladaptations that preceded the final schizophrenic one. It then asks such pertinent and therapeutically stimulating questions as these: What are the resources of the patient? What has he to react with? What is the situation he is called on to meet? Can we modify his resources in order to enable him better to meet the situation, or can we modify the situation so he may better meet it with his resources? Etc. Finally, the psychobiologic idea does not court exclusively any single therapeutic mistress and it leaves open the door of every reasonable treatment plan.

PSYCHOTHERAPY. There are many kinds of psychotherapy and, we believe the more individualistic the approach the better. Generally speaking the psychiatrist will find his patient living on the plane of unreality or dangerously close to it. Between this and the reality which is possible for the patient and which varies for each patient there is a gulf which must be bridged if adjustment is to be secured. The steps between phantasy and reality cannot be forced too abruptly but must be taken, psychologically speaking, slowly and gradually. The building up of confidence, persuasion, suggestion, particularly the indirect suggestion that skillfully and not too obviously puts forth the claims of reality, are helpful. All this implies some degree of accessibility on the part of the patient but, so is this a requisite for any form of psychotherapy and in the bulk of early cases some degree of accessibility is at hand. Once a bit of insight is secured and there is some beginning of the process of viewing the symptoms objectively, then this advantage should be pressed and expanded.

There is much difference of opinion concerning that specialized form of psychotherapy known as psychoanalysis. Some authorities feel that dangerous panics result from the inability of the patient to face the probably incestuous significance of the phantasies, and that the physician becomes a part of the phantasy. Others think that this is merely a difficult place in the treatment plan and that it can.be won through. It is obvious that in any event psychoanalysis must be modified if it is to be used in the treatment of the schizophrenic.

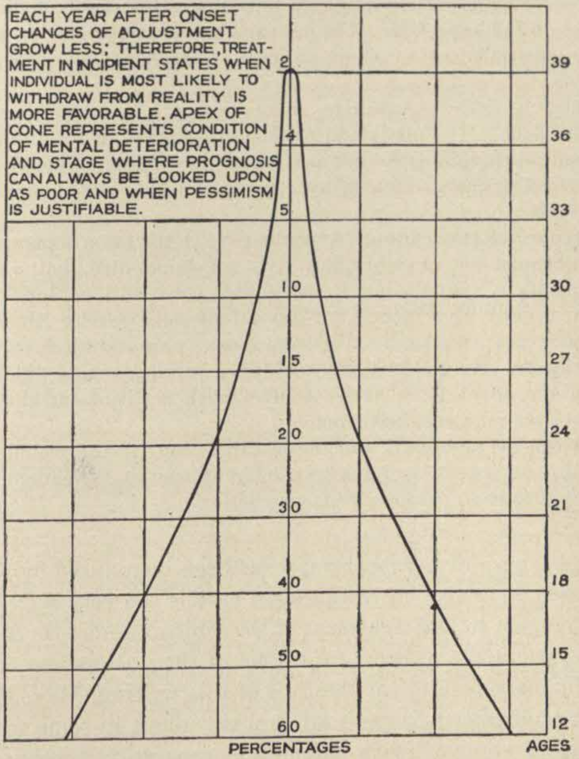

FIG. 25.

From the standpoint of formal psychoanalysis, Zilboorg writes:

> The psychoanalytical method, as is known, requires a strictly passive attitude on the part of the investigator, interpretations and explanations being given to the patient only when the patient is affectively ready, i.e., when the patient through

> the accumulation or display of the affect which is related to this or that trend, is about ready to gain insight almost entirely without explanations or interpretations. This method, if properly applied, thus excludes any intellectualization—the chief enemy of insight, and in schizophrenia the most dangerous enemy, because the schizophrenic is an intellectualist par excellence; he could, would and does indulge in most complex intellectual formulations in order to avoid the necessity of emotional participation in reality. Another advantage derived from the psychoanalytical method is that if a patient is permitted to talk and "ramble along" freely without interference, he sooner or later, but quite invariably stumbles upon "resistances," i.e., upon psychological elements which are charged with a great deal of affect. It is possible to observe quite clearly and even to estimate the depth of the affect long before it comes to full expression. The patient's voice, minor and major gesticulations, facies, sudden silences, evasions, all serve as excellent indicators and signs of warning.
>
> The method is called "affective re-integration" . . . One fact, however, appears beyond doubt. The analytical method in its classical form, preceded by a preliminary and rather long period of analysis of the "reality principle," mobilizes the masses of affective energies which otherwise remain shut-in and prevent a proper contact with reality.
>
> The significance of this cannot be overlooked. It throws a somewhat different light on the phenomenon of Schizoidie. It is not impossible that what is called schizoid personality is actually not an established constitutional form, but a complex resultant, a derivative of certain dispositions only. Under circumstances of great stress, such as an unusually strict, repressive, parental ideal, combined with very early traumatic stimulations of sexual life, a conflict ensues which favors the withdrawal of the affect from active contact with reality—and thus occurs the overemphasis of the schizoid disposition.
>
> The affect can be mobilized and set to expression. If the mobilization takes place after reality and phantasy have been differentiated by the patient, the process of affective re-integration may go to its completion.

Another new form of psychotherapy has been introduced by Rosen. This therapy is based on analytic principles but entails the very active participation of the therapist in the treatment of the schizophrenic. He considers the schizophrenic symptoms a direct expression of the unconscious, and akin to dreams. Preliminary results (at the time of this writing, May, 1950) would indicate that pronounced changes are brought about in some schizophrenic patients, many of whom are very chronic and apparently hopeless. The exact mechanism by which these changes are brought about is not well understood. Certainly a part of the personality of Dr. Rosen and his very dynamic direct participation in the patient's symptoms and his direct interpretations for them play a role. Whether other persons can utilize the "Rosen technique" is at this time a matter of conjecture, but it is a new form of approach to this very difficult problem that deserves the continued observation and study by the psychiatric profession.

Drug Therapies. At the time of this writing there are various forms of drug therapy being advocated. The newest is the use of Cortisone or ACTH. Preliminary reports on the use of these drugs are discouraging but because they bring about pronounced changes in the patient's mood they should be further investigated. The use of Malononitrile by Casperson and his group also deserves further observation and investigation. The use of glutamic acid in the catatonic groups requires further study. The possibility of high protein feedings, the use of Cytochrome C and the use of antireticulocytic toxoid serum have so far proved disappointing but are deserving of further observation. It should be pointed out that any and all of these preparations are merely adjuvants to psychotherapy. In our experience they make the patient accessible to psychotherapy rather than bringing about profound changes of a lasting nature on their own potentials. Histamine, as suggested by Harris, as an adjuvant with insulin shock treatment or histamine used with Sodium Amytal has been reported to be of some value in some of these patients. More recently histamine shock has been used, and is supposedly of value because it immobilizes certain of the steroid hormones. Perhaps these treatments will prove to be of benefit over a prolonged period of time, but to date must be regarded as experimental in nature. At this time the only pharmacologic treatment offering much in the way of lasting benefit is the insulin shock treatment.

Histamine
Sod. A
= some

Insulin Shock. Pharmacologic shock therapy in some form is used in the majority of hospitals caring for schizophrenic patients. The most satisfactory results from the standpoint of well-sustained improvement is obtained with insulin or hypoglycemic shock as suggested by Sakel. In our hands the results have been essentially the same as those of Ross and his co-workers whose statistics are here presented in part.

Table 11

CONDITION OF PATIENTS WITH DEMENTIA PRECOX AT THE TERMINATION OF TREATMENT, IN PER CENT, ACCORDING TO THE TYPE OF TREATMENT

	Totals	*Recovered*	*Much Improved*	*Improved*	*Unimproved*	*Died*
Insulin	100.0	11.1	26.5	26.0	35.2	1.1
Metrazol	100.0	1.6	9.9	24.5	63.5	0.5
Control group	100.0	3.5	11.2	7.4	73.3	4.6

In our experience the method is of greatest value in rendering uncoöperative, delusional patients accessible for detailed psychotherapeutic procedures. In many instances patients who are mute, preoccupied, or antagonistic become coöperative, participate in ward activities and become interested in reaching an understanding of their reaction and in forming adequate plans for the future. The technique of insulin shock therapy should be thoroughly mastered in some institution using this type of treatment before it is undertaken.

The treatment is arduous and dangerous in unskilled hands. It is not suited to office or home administration and should be given only in well-equipped, modern hospitals. The treatment should be administered by a central insulin service or department within the hospital. The patients should have a complete physical check including such laboratory procedures as electrocardiogram, chest x-ray and complete blood chemistry studies. Persons showing evidence of metabolic disturbance, pulmonary infection or myocardial damage should be rejected for this form of therapy. In addition to the careful routine history and mental status examination the Rorschach test, association motor studies, and certain of the thinking disorder tests are indicated. All of these examinations should be repeated during the course of the treatment and following its completion as they offer much information as to the nature and quality of the remission obtained. Harris and Horowitz have used a preinsulin sodium amytal interview and find it of prognostic value, thus making for a better selection of patients for the insulin group. We have not used it in just this manner, but find the method of value in getting detailed examinations upon patients who fail to coöperate to detailed testing in the pretreatment period.

The administration of the shock itself is relatively simple in trained hands.

1. Treatments are administered daily excepting one rest day each week. On this day insulin units 15 is routinely given.

2. The evenings before treatment patients are given a light supper at 5:30 P.M. and no food until after the shock period the following day.

3. "Old" or ordinary insulin is given with an initial intramuscular dose of 15 units. The dose is increased 10 to 20 units per day until the patient reaches the stage of somnolence, profuse perspiration or muscular twitchings. The dosage is then increased only 5 units daily until the deep shock phase is attained. Protamin zinc insulin is unsatisfactory for these treatments.

4. In the deep shock phase the dosage remains constant unless the clinical course of the shock indicates an increase or decrease in the dosage.

The depth of shock bears little relation to the dosage of insulin in a series of cases, persons showing varying degrees of sensitivity to the medication.

In any individual case the depth of shock is roughly proportional to the insulin dose, but the total dose, as stated above, varies greatly from one person to another.

The depth of shock can be judged and controlled only by the clinical findings. The signs of shock are as follows:

1. PRESHOCK PHASE. Patient somnolent. Can be aroused. In later stage of this phase may show sweating or mild myoclonic twitchings. In the early phases of this stage, patients tend to rouse spontaneously after 30 to 60 minutes of somnolence. They may be rather confused. Termination by allowing patient to drink 50 per cent sugar solution until he ingests 2 Gm. of sugar per unit of insulin dosage.

2. SHOCK PHASE. In this phase the majority of patients show "wet shock." Perspiration is profuse, pulse rapid and thready, temperature drops, heart sound mushy, blood pressure 80 to 90 over 60 over 70, skin pale, wet and cold, respirations deep and stertorous. There is usually profuse salivation with

drooling, and patients should be restrained in a sitting position with neck flexed slightly forward to prevent aspiration of the saliva. In this stage patients are in deep coma, the tendon reflexes are hyperactive, ankle and patellar clonus are present, corneal reflex abolished, cough reflex usually absent and pathologic toe and thumb signs are elicited. After approximately 1 to 2½ hours the perspiration decreases and the skin becomes dry. The usual time of termination is after 1 hour of shock. The patient is given 2 Gm. of sugar per unit of insulin dosage as a 50 per cent sugar solution administered by means of a stomach tube inserted through the nose, or in some instances, 50 cc. of 50 per cent glucose I.V. Certain patients fail to perspire and are said to be in "dry shock." The signs are essentially the same as those listed above excepting the perspiration, and the salivation is often less marked. In this type of reaction many persons show myoclonic twitchings and in some instances a typical tonic-clonic convulsion. It is our practice to terminate the particular shock session after a convulsion, but the series of treatments is continued uninterrupted. In our experience patients have fewer complications if fluids and sodium chloride are forced between treatments to replace the loss through perspiration during the shock phase. It is believed that this shock phase is essential for therapeutic results.

3. COMPLICATIONS. Complications are infrequent in properly conducted departments. Convulsions may occur in any shock case at any time. They are usually self-limited and the shock may be terminated by the usual method after they subside. If they persist the treatment should be terminated by intravenous glucose in 50 per cent solution. Cardiac or respiratory collapse may occur but are infrequent. Administration of 50 per cent glucose I.V., epinephrine 3 to 6 minimums I.V. and oxygen inhalations usually restore these functions in short order. The most serious complication is prolonged or persistent coma. If patients fail to respond within 30 minutes after the nasal gavage they should receive intravenous glucose in 50 per cent solution. If this fails to bring about a prompt reaction it is our practice to institute venoclysis of 1,000 cc. of 10 per cent glucose in Ringer's solution. If the patient shows any tendency to hyperpyrexia 1,000 cc of whole blood as a transfusion is also administered. Continued coma or any signs of muscular twitchings are benefited by spinal drainage. To date such treatment has brought about a response within 1 to 12 hours in our experience, but deaths have been reported from this complication.

Complications such as aspiration pneumonia, pulmonary edema are usually avoided by careful nursing care during the shock phase.

The shock treatment is usually continued 30 to 50 days depending on the clinical progress of the patient. Daily progress notes by both physician and nurse are indispensable in the management of these individuals.

Termination of the series is by reduction of the insulin dosage over a period of 2 to 3 days.

An important phase of the treatment of these patients is an energetic regime of occupational therapy, ward responsibility, hydrotherapy, and daily therapeutic interviews as outlined elsewhere.

As previously stated, in our experience insulin serves only as a means of rendering a patient amenable to psychotherapy and if this important phase is omitted, relapse occurs in a disappointingly large number of cases.

Further details of the technique are described in the literature, but this information should, in all instances, be supplemented by practical experience with the method.

Metrazol, picrotoxin, nitrogen inhalations, coriamyrtin and other convulsant drugs have also been used as agents for pharmacologic shock. In the schizophrenias the results from the convulsant methods are of less benefit than in the affective disorders.

In spite of the numerous theories advanced to explain the benefits derived from shock therapy the treatment remains on an empirical basis.

SURGICAL MANIPULATION. Prefrontal leukotomy, transorbital leukotomy, topectomy, "under cutting" operations and other types of surgical assaults on the brain have been advocated in chronic schizophrenic patients. The authors believe that these methods of treatment offer some benefit to chronic paranoid or chronic assaultive patients who have failed to respond to other forms of treatment after prolonged and intensive efforts at therapy. We believe that these operations should be looked upon much as an amputation is looked upon in surgery. At times they may make the patient's life more tolerable, it may make him happier in an institution, or perhaps even enable him to return to the environment in a limited capacity. They always leave crippling defects which may or may not incapacitate the patient, depending upon the severity of the operation and the complexity of the environment to which he must return.

GENERAL MANAGEMENT. In well-established schizophrenia the majority of the patients must be treated in suitable mental hospitals or sanitoria. In this way the medical interests of the patient, his safety, the safety of the community and the welfare and efficiency of the family are best protected and conserved. Under skillful supervision and, if satisfactory conditions are available, a number of patients may be cared for in the home, particularly during the "quiet" periods of the psychosis. In some instances farm or ranch life is a good solution. In early or mild cases, the Out-Patient Clinic or private physician can satisfactorily direct the care of the patient in the home. The placement of the patient in suitable homes and the community plan as it is followed at Gheel, Belgium, deserves wider recognition. Whether the patient be in hospital or at home, adequate nursing, occupational therapy and proper social service are important. The nurse is the representative of the psychiatrist and, if well trained, she will know how to attempt to check the inroads of phantasy and how to set forth in theory and practice the claims and advantages of reality. The social service worker if not too fanciful is especially valuable in the "follow-up" of adjusted patients and in the instance where patients are kept in the home, she could combat the danger of family disorganization. Occupational therapy is an extremely valuable and a necessary treatment adjunct. It is constantly symbolic of reality rather attractively garbed, and it produces the concrete fruits of work.

TREATMENT OF SPECIAL SYMPTOMS. The good nurse will know how necessary it is to see that the patient has sufficient nourishment; that he is tube fed when necessary; that he is kept clean, bathed frequently, changed when he wets or soils himself; that dangerous and sharp objects with which the patient might mutilate himself or others are not available; that the patient has enough exercise, sunshine and fresh air; that the chronic patient is taught useful habits and some routine, at least, in the care of the bodily functions and, the nurse, too, will minimize and control the physical dilapidation of appearance which is such an early result of the shutting out of reality. The prolonged bath, wet packs, etc., sometimes quiet the excited states. Apathy must be often the target of special measures: walks, calisthenics, physical culture apparatus, athletic games, indoor games, cards, other diversions, suitable motion pictures, and the theater, music, dancing, garden work, arts and crafts especially basketry and weaving, etc., are all helpful. Sometimes in stupor visiting by relatives is beneficial.

TOTAL PUSH THERAPY. Myerson and his co-workers have succeeded in instituting an intensive generalized therapeutic regime utilizing physiotherapy in its various forms, ultraviolet irradiation, careful attention to diet and vitamin intake, and an active program of exercise and games. Patients are attractively clothed and groomed. Coöperation in the plan is rewarded with extra privileges and infraction of the rule or lack of interest in the program results in the removal of certain privileges. They report a lowered incidence of chronic deteriorating processes, fewer instances of disturbed episodes and an increased incidence of discharges. The authors do not offer the plan as a cure for schizophrenia but show abundant evidence that the chronic schizophrenic can be taught to live more efficiently and pleasantly with his illness. The authors have utilized a program approximating this and find it of decided therapeutic benefit.

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CHAPTER 7

THE CONSTITUTIONAL PSYCHOPATHIC INFERIOR

CONSTITUTIONAL INFERIORITY
PSYCHOPATHIC REACTIONS
PSYCHOPATHIC BEHAVIOR DISORDERS

Pathologic Character Traits. The above terms designate a group of behavior disorders which have been the object of much discussion for many years. It is generally agreed that they represent a heterogeneous group of reactions, and this group is sometimes referred to as the "wastebasket diagnosis," all patients being grouped here who do not fit into the other diagnostic pigeon holes. The student who has perused this book this far will have realized that human beings do not adapt themselves to arbitrary forms of classification and the patients described in this section epitomize this problem. In spite of these difficulties there are certain qualities in the behavior of patients usually placed in this group that have enough essential features in common to warrant the continuation of such a diagnostic grouping. Patients properly categorized here show a general impulsiveness and inability to postpone gratifying their wishes and desires, a marked lack of consideration for the accepted moral standards of the group in which they live, undependability and unreliability, inability to form mature judgments, inability to profit by past experiences, an apparent lack of appreciation and understanding of the consequences of their acts, and a tendency to accept immediate pleasures without considering the long-term consequences to themselves or to the persons about them. Most of these patients have a certain childlike confidence in the willingness of people around them to rescue them from the consequences of the difficulties which their behavior produces. Another feature, and essential to an accurate use of the term, is the fact that the symptoms of misbehavior have been manifested for many years, usually starting in early childhood. The behavior may vary from amiable lying to major criminal activity. There is a tendency for the diagnosis to be used too freely without adequate investigation of the etiological factors. For example, not all sexual deviations, not all drug addiction or alcoholism, not all criminal activity is carried on by persons who should go into this category. Persons belong in this category when their antisocial behavior is the principle manifestation of their neurosis. In many cases it will be found that the antisocial behavior is only one symptom of a neurotic reaction, whose origin makes it more logical to classify the patient in another category.

Unquestionably, in the Army the convenient label C.P.I. was too frequently affixed. It became obvious that it was necessary to bring at least some order out of the chaos by splitting off many so-called personality-behavior disorders, which however psychopathic their behavior markings, nevertheless, were too abruptly initiated and of too short duration to be regarded as constitutional psychopathic inferiority.

Incidence. The exact incidence of this reaction is not known because the limits of behavior which entitle one to inclusion within this group have not been well defined by medical, psychologic or legal authority. Statistics in public mental hospitals show that less than 2 per cent of their admissions carry this classification, but this low figure does not reflect the occurrence of these persons in the general population because many of them are punished as criminals and others are tolerated as the bad boys in their particular community.

Etiology and Psychopathology. With succeeding editions of this book one can become more specific concerning the etiology of some of these reactions. Increasing use of psychologic tests, particularly those of the so-called projective variety (the Rorschach is an example) and the perfection of additional category tests, the general use of electroencephalograph, and more widespread use of pneumoencephalograms, have made it possible to weed out of this group a great many patients obviously suffering from some type of organic disorder and improperly included in this classification. Most notable among these is the elimination of children showing certain types of overactivity with some aspects of aggression which were formerly included in this group but are now understood to be postencephalitic disturbances. Increasing skill in detecting the attack disorders such as the epileptic equivalent states and the accurate diagnosis of posttraumatic reactions eliminate other patients often placed in this category. The patients remaining are generally considered to be suffering from a form of neurotic reaction which has as its principle symptom a deviation of behavior which is antisocial and undesirable by present day moral and legal standards. Most of our present understanding of the neurotic character of the psychopath has come from the psychoanalysis of patients suffering from one of the manifestations of this descriptive group. One of the most puzzling symptoms in the study of the psychopath is the patient's statement that he knows that he should not carry out a certain act, but that he is unable to refrain from doing so. This compulsive-like quality of behavior makes some authorities believe that all such psychopaths are irresponsible for their activities. Many of these patients will tell you that they carry out the action even though they are quite certain it will result in trouble, but at the moment they do not seem to care. The compulsive patient has an urge to carry out some act that he does not like to do, does not want to do and regards as unpleasant or silly, but he performs the act because it relieves his anxiety and makes him feel better. The psychopath on the other hand does something that he believes he wants to do or feels he just must do because of the pleasure it will give him, although he recognizes that he is probably going to get into trouble. Thus, the compulsive patient will come to the physician complaining that he is forced to carry out unpleasant or silly acts which make him suffer in terms of his own self-esteem and self-respect, but he must do them to keep himself comfortable. The psychopath, on the other hand, will complain that the things he wants to do and likes to do and the things that give him pleasure always land him in trouble. The fact that the psychopath's symptoms give him pleasure and that he does the things he consciously wants to do seems to generate aggression in legal authorities and in many physicians and makes them classify as a criminal or undesirable person instead of a neurotic.

The impulsive and compelling character of the symptoms can be explained in several ways. Basically the personal moral code or super-ego of these people is poorly developed or pathologic. This is usually due to the fact that in infancy and childhood when the patient was developing this facet of his personality the environment offered unsatisfactory sources of love, security, and guidance. This might have been due to a broken home, parents who rejected the children, or other environmental reactions which produced very severe trauma when the child was in the earlier phases of his libidinal development. This results in mixed feelings or so-called ambivalence to the love objects in their environment. The impulsive behavior mentioned above is further evidence of this type of ambivalence. The child wants to do something he feels he must do because it gives him pleasure, and at the same time he rejects the idea because it is wrong. He also feels some justification for doing it and believes he can get away with it without punishment. Persons who belong in this group are often extremely personable and ingratiating individuals and are usually able to gain the confidence, love, and affection of their victims. Having reassured themselves that they can gain love, they then fear they cannot hold it and turn upon the love object victimizing them in any one of the several spheres of behavior. This mechanism describes certain persons who are always dissatisfied with what they have and who are supposedly "hypersexed." These symptoms are manifestations of difficulty in forming attachments of a stable sort and the person attempts to find satisfaction by continually moving from one love object to another.

Faulty or pathologic formation of the super-ego is thought to play a basic role in the various types of behavior disturbances in the "psychopath." The student will recall that the formation of a stable super-ego is dependent on several things. It is necessary for the child to have firm but dependable objects of love in his environment. This usually is in the person of the parents. Shifting of parents through broken homes, remarriage, etc. parents who are too unstable or too cruel to function as a dependable source of love and parents who behave in such a manner that the child cannot form proper standards of behavior through identification may result in poor super-ego formation. If the parent fails to inspire love and affection in the child at about the fourth or fifth year when the super-ego takes on its definitive form, the child will not react properly to "the oedipal situation" (see Chapter 1). The guilt feelings aroused by the changes in attitudes towards his parents, will not arouse sufficient anxiety to stabilize the super-ego and enable the child to build one strong enough to influence his behavior in the future. If the child's first well-objectified hostility, manifested in the oedipal situation, is not toward a person loved enough to produce strong guilt feelings and strong anxieties, the pattern will be set for carrying out gratification of the instinctual impulses without sufficiently strong guilt feelings or sufficiently strong fears of the consequences to cause the person to inhibit or modify their behavior. This characterizes the behavior of the patient usually described as "a psychopath."

The "psychopath" appears to superficial observation to be an anxiety-free person. He seems to carry out his acts with no sense of guilt and to be completely free from remorse or other concern about the possible consequences of his difficulty. A deeper study of these patients fails to confirm this belief. The restlessness, dissatisfaction, and continual moving from one love object to another in itself offers a clue to the basic unhappiness and basic large charge of anxiety carried by these patients. It is as though they were on the move to keep the anxiety and guilt feelings from having a chance to catch up with them and overcome them. This running away from the super-ego has been referred to by Reich, Fenichel, and others as "isolation of the super-ego." These persons when confronted with an instinctual urge or need for gratification grant it impulsively and immediately before the super-ego can operate. That is, a person having a wish or desire carries it out promptly without stopping to think how he is going to feel about it or what the consequences of it may be. The remorse and guilt feelings come later and again describe one of the symptoms of the psychopath. It is believed that this particular method of isolation of the super-ego, of allowing it to express itself only after the instinctual gratification, results when the primary failure of the love objects is associated with intense erogenous pleasures particularly in the oral sphere. Very often the parents in cases of this sort have been persons who have been inconsistent in their emotional attitude toward the children, showering them with love and affection at periods and at other periods rejecting them, neglecting them and being extremely harsh or indifferent. Another form of anxiety-producing behavior which gives a clue to the inner tensions and anxiety of the psychopath is closely related to this isolation phenomena and is seen in the elaborate details to which persons in this category will go to justify their behavior. We see certain cults, such as nudists, certain "Bohemian" groups, and so-called "sexual clubs" which are prevalent. These groups serve as a false super-ego upon which these persons can focus much of their energy. This false front, as it were, permits them to carry out their impulses and decreases the secondary feelings of remorse. While the whole group may be rejected by the world at large, within their group they find a certain amount of acceptance for their unusual behavior. Some of these patients may be said to be acting out their neuroses, that is, carrying out the original impulses on an adult level.

Another way of demonstrating that guilt feelings are well controlled and not absent is the fact that psychopaths will occasionally commit suicide in their feeling of remorse, feeling of hopelessness, and feeling that nothing can be done. This suicidal or self-destructive trend is obvious in other forms of psychopathic behavior. For example, many patients will apparently carry out behavior which will gratify certain instinctual impulses but as a result of it will also result in a great deal of punishment. For example, patients in this category will often perform sexual indiscretions without any attempt at protecttion against disease or illegitimate pregnancies. Others in carrying out criminal activity of an aggressive sort make no attempt to conceal their identity and in fact the way the crimes are committed makes one believe that they were courting punishment. Gamblers will sometimes carry on their activity in a setting in which they know that the game is fixed and that they have little or no chance of winning. In all of these, winning under these adverse circumstances does of course give them a greater instinctual "kick" but on the other hand the element and possibility of punishment must be present on some level and the possibilities of the punishment must play a role in the pleasures brought about by the action.

Symptomatology. Symptoms of this disorder manifest themselves in varying types of behavior. Not all of them could be discussed in a book meant for general use of students and practitioners but a few of the more important ones will be presented.

SEXUAL DEVIATIONS OR THE PERVERSIONS. Unusual forms of gratification of the sexual impulses have been recorded since ancient times. Their acceptance by the general population has varied tremendously in various civilizations as recorded. At the time of the preparation of this edition there is a tremendous amount of public interest in the problems of deviation and it is for that reason that this portion of the book is somewhat expanded. To present all the views on this subject and to present all of the knowledge and all of the theories discussed would take a work much longer than this total volume. We will attempt to put down what the authors believe are the most reliable facts and theories concerning these anomalies of behavior. They are largely analytically oriented because we believe Freud's discovery and investigation of the vicissitudes of infantile sexuality provided the basis for understanding of these problems. It is true that certain deviates of the homosexual type show certain biologic characterizations both on superficial inspection and on careful chemical testing of the ketosteroids. It is also true that patients with these anomalies represent an extremely small proportion of the problem, and their presence does not always mean that the person practices sexual deviations, although he may give every external appearance of doing so. We do not at this writing have any conclusive evidence that greater or less quantities of sexual hormones of any particular variety will influence a person's ideas and impulses insofar as satisfactory sexual objects are concerned.

Patients with sexual deviations are persons who have either failed to develop beyond the infantile level of sexuality due to arrested development or who have regressed to infantile forms of sexual expression. This regression is due to frustrations or disappointment in some phase of psychosexual development. Fenichel has stated it rather simply, "The simple formula presents itself: persons who react to sexual frustrations with a regression to infantile sexuality are perverts; persons who react with other defenses or who employ other defenses after the regression are neurotics." Persons who show regressive tendencies in this sphere like persons showing other forms of regression, retain a certain amount of the adult sexual function. Thus, in perversions, the person may achieve his stimulation through some unusual act, such as watching nude people, watching fires, certain types of cutaneous sensation, or certain types of oral stimulation, but the final satisfaction usually results in a genital orgasm, thus showing some clinging to adult types of sexual expression. It is believed that the factors which prevent genital stimulation from becoming the primary goal in sexual activity are the same factors which produce other neurotic manifestations. It is believed that the factor most active in production of disturbance in genital primacy is castration anxiety and the attendant fears and guilt feelings that go with it. This may be brought about in children raised in environments that are extremely rigid, where there is a particularly cruel or inconsistent form of punishment and where the child reacts to these fear and guilt reactions by identifying himself with the parent of the opposite sex instead of the parent of the same sex, and thus hopes to escape detection and punishment. It is felt that the choice of perversion is due to a process of fixation, brought about by experiences which give unusual satisfaction and feelings of security and relief from the guilt and fear reactions of the castration anxiety which occurred at some time before the castration anxiety reached its peak. Thus, being confronted with anxiety produced by the castration complex, the child returns or regresses to the situation which in earlier childhood gave him great security and reassurance. The fact that the breast usually gives such reassuring comfort and that situations in later life frequently do not, may explain the fact that the oral perversions are the most common. Detailed elaboration of the various forms of deviation would have little place in this book. For the student or practitioner who is particularly interested in this phase of the problem there are many works that one might refer to. Perhaps the most authentic work is the chapter on Perversions and Impulse Neuroses, in Fenichel's "The Psychoanalytic Theory of Neuroses." There are other books of popular and semi-popular stamp which discuss the problems of the deviations but often with too much emphasis on the symptomatic description of the patient's behavior and insufficient on the origin of the behavior. To enlarge upon it here would give it an unwarranted emphasis in comparison to its total importance in the field of psychiatry.

At the time of this writing there is a legal hue and cry over the incidence of perversions in the population. It is certainly true that there are a good many persons showing perverse tendencies in various degrees. To consider the pervert person a criminal is denying what is known to medicine and is penalizing the patient for choosing a particular type of neurosis as opposed to other types. It should be pointed out that not too many generations ago patients with mental illnesses were regarded as criminals and punished, or regarded as witches and burned, and in fairly recent times patients with neuroses of other forms were regarded as malingerers, goldbrickers, and general no-goods. It is felt that another generation will result in practically all persons accepting the sexual deviate as a sick person. This does not imply that persons with sexual deviations may not indulge in criminal activities. Those who resort to criminal functions, that is, functions which interfere with the health, liberty, or well-being of other citizens in an effort to gratify their sexual impulses must, of course, be incarcerated, because of the interference in other persons' rights, and not because of the fact that they seek sexual pleasure in things other than genital expression.

Some patients suffer from latent homosexuality. That is, they fail to develop adult sexuality, and at the same time reject and repress their homosexual urges. These so-called latent homosexuals use various methods or means for working out their problem. One of the common ones is the chronic irritable, paranoid bachelor; at times the dancer or other artist may use his talents for sublimating the unrecognized homosexual trends. The unsuccessful "mama's boy" and the alcoholic who goes to bed with his bottle may represent forms of latent homosexuality. The recognition of and management of these forms are definitely problems for the expert. The knowledge that such reactions exist and may explain some of the behavior of his patient is of interest, but the management should not be attempted by the student or non-psychiatric physician.

Gambling in some persons is a form of sexual perversion. Gambling is sometimes looked upon as the result of guilt feelings centering about masturbation. It is felt that the excitement of gambling represents a form of sexual excitement, and the fact that they can win against large odds represents approval of the environment and of "fate," and thus offers a certain amount of protection against castration anxiety. There is also in gambling a strong aggressive trend for power, usually based on failure to achieve satisfaction of their aggressive tendencies as a child, with anxiety and the desire to achieve this power by winning at gambling. This latter type gambler usually will attempt to carry on his gambling in professional places or against experts, in that his winning over them is associated with fewer feelings of guilt and a greater sense of satisfaction. The fact that he will lose a great proportion of the time also results in a certain amount of punishment to allay his guilt feelings.

FAULTY HABITS AND ADDICTIONS. Certain types of drug addicts, some alcoholics and some patients taking other forms of medication belong in the so-called psychopath group. Here, the patients use the toxic substance in a way which attempts to satisfy and in some measure does satisfy their need for security. They are taken impulsively and there is always the period of remorse. The psychologic effects of the drug are the aim of the addiction and the physiologic effects are secondary. In these persons the desire for the drug exceeds that of any of the more direct methods of satisfying the sexual instincts.

CRIMINAL ACTIVITIES. All criminals do not belong in this class. Many crimes are accidental, due to motor accidents or firearm accidents or fights carried out while under the influence of alcohol and represent the overspilling of aggressive trends without any real intent to commit a crime. Similar remarks apply to the murders carried out in the "triangles" of newspaper fame. Some criminals fall into the habitual criminal class, and may be classified as psychopaths. As mentioned under the formation of super-ego, certain persons do not have satisfactory people in their environment for identification. At times they identify with persons who themselves show criminal activity. At other times they identify themselves with the wrong aspects of a person's character and develop their own concepts of right along the lines of the defects in other persons' characters. In many, the criminal activity is a rebellion against authority, prompted by the desire to carry out one's own wishes and desires. Punishment, as the environment's retaliation to the impulsive act, also plays an important role in certain types of crime. To assume that psychiatry or analysis can solve all criminal behavior is absurd. The mental sciences can aid in an understanding of crime, but it must be the total environment which is satisfactory to the person from infancy on to prevent him from the necessity of carrying out antisocial acts in order to achieve the sense of love and security which he needs.

The imposters or frauds, and confidence men frequently belong in this category. Here one finds persons getting from their environment by fraud and deception those elements of security, love, affection, and the materials for self-esteem which are lacking in real life. The variety and complexity of these frauds and deceptions are determined only by the imagination of man and the gullibility of the public at large.

A few cases of psychopathy are included for an example as to the widespread nature of the symptomatology of these illnesses. Cleckley's book, "The Mask of Sanity" includes the descriptions of many more types and varieties for the interested student.

The following case illustrates several characteristics of psychopathic inferiority: Inadequacy, emotional instability, impulsive behavior, poor judgment, unwise activities, ethical deterioration, inability to profit by experience and it shows, too, somewhat typical psychotic episodes.

Male, white, age 23.

This young man is a scion of a prominent and wealthy Baltimore family. His father, a high-powered executive, who was extremely successful, unscrupulous, and tended to be alcoholic, died 10 years ago. The mother is alive and is "nervous" and emotionally unstable. There were two brothers and one sister. The environment of the home was unhappy; the boys were afraid of the father and there were frequent quarrels between the parents. Both the patient's brothers have malignant schizophrenia. The sister is happily married and is normal.

The boyhood of this patient was about as might be expected in a child subjected alternatingly to the spoiling of his mother and the bullying of his father. He did badly in school particularly after the death of his father and in spite of a rather good intellectual endowment, the school record was one of lack of progress, frequent running away from boarding school, breaking of rules, etc. At best he has an eighth grade education. His work record is even worse. Numerous jobs and positions embracing many varieties of indoor and outdoor work were obtained and even created for him. In none of them did he show any real interest and in none did he remain more than a few months. Once he thought, probably with some slight justification that his fellow workers were annoying him because he "came from a good family." Recently, he has been given a farm on which to raise horses, but he pays very little attention to this occupation for which he expressed great enthusiasm.

His emotional instability, defective judgment and unwise activities are pronounced. Small amounts of alcohol, a little flattery or anything out of the ordinary tenor "upset" him and there may be "ugliness," "big talk," boisterous hilarity, suggestibility, temper outbreaks. He is uneasy with those of his own station in life and seeks the company of people of very questionable character. Three years ago, while under the influence of alcohol he had intercourse with a prostitute and became infected with syphilis. Twice, only quick intervention saved him from marriage with "gold-diggers." He is close about money spent for others but is apt to buy for himself expensive watches, canes, clothes, etc.

He is scarcely alcoholic but a few drinks are sufficient to remove the small amount of inhibition. During the past five years he has had seven psychotic episodes, the longest lasting three weeks. Five of them were in relation to alcoholic indulgence. These episodes were marked by what may be only described as vague, rambling and occasionally somewhat incoherent speech, motor restlessness, simple hallucinosis (lights and shadows on the wall) suspicious attitudes and indefinite paranoid trends during which he referred to his belief that one of the maids in his mother's house might be a detective.

A somewhat parallel case from another walk in life is cited.

L. F. Age 34 years. Admitted, September 21. Discharged, October 25. Typical case showing conduct disorder of many types. An inadequate personality with inability to adjust vocationally. Vagrancy. Undertook many enterprises. Court record. Adjusted well in the Army.

The father is a chronic alcoholic and one sister is delinquent.

Repeated physical examinations were entirely negative.

Normal birth and development. He had the usual childhood diseases with no sequelae. He began school at the age of five and left at the age of 12, when he first became delinquent. Despite the fact that he was mischievous and always in trouble, his progress in school was excellent and he reached the seventh grade with no failures. He was considered very bright in school and was a source of pride to his parents because of his rapid progress. His delinquent career since this time will be outlined.

He has been mildly alcoholic from the age of 16 and has been frequently intoxicated. He developed many sex interests at an early age, beginning heterosexual activities when 14.

General make-up was that of an inadequate personality. He was unable to adjust himself to any one vocation for more than a short period of time. He was well liked by all with whom he came in contact on account of his excellent appearance and frank, agreeable manner. Took great pride in his clothes, frequently spending his last cent on them.

Lawrence was brought into the hospital by the patrol after being arrested for loitering in the park. He gave a very interesting history which his relatives verified. He first came in contact with the authorities at the age of 12, and at this time was committed to a reform school for truancy, vagrancy, and petty larceny. He remained in this school for three years and caused considerable trouble. On one occasion, he organized a gang to run away from the institution. He succeeded in running away four times himself, usually being returned within a few weeks. On leaving the institution, at the age of 15, he began working as a clerk getting along very well for six months, mainly owing to his excellent appearance. On being advanced by his employer and given more responsibility and trust, he stole $500.00 and was shortly afterwards arrested. His family said that he realized the nature of this theft, but made no attempt to elude the authorities and was arrested after spending one-half of the money in the course of two days. He was given a three-year sentence, two years of which he served in prison and was then paroled on account of excellent behavior. For the next two years, Lawrence got along fairly well, but having on an average, nine different jobs each year. During this period he worked in eight of our largest cities. His work varied from laboring to office work, with many other jobs, such as bootblack, tailor's assistant, chauffeur, farm hand, salesman, etc. The cities he resided in were New York, Philadelphia, Boston, Baltimore, Cleveland, Detroit, San Francisco and Los Angeles. He was never thrifty. Fortunately, at this time Lawrence was accepted in the draft and sent overseas in July 1917. Much to the surprise of his parents, he adjusted himself splendidly in the Army. He was promoted from private to corporal and was honorably discharged January 1920. Shortly after his discharge from the Army, Lawrence returned to his old habits and developed into a fairly clever pickpocket. He never appeared disturbed when he was arraigned in court. He served short sentences in the County Prison. Finally, after being arrested for vagrancy he was sent to the hospital for observation.

At the time of admission, Lawrence was very surly, sullen and antagonistic. This was gradually replaced by a tendency to boss the other patients and he finally became very domineering. He was much attached to one of the ward physicians, insisting on doing all kinds of services for him, such as preparing cards, writing out the names of new patients, etc. However, he was unstable in this affection, and, after two or three weeks, became extremely antagonistic and transferred his affection to another physician. He was often discourteous to the nurses, though at times extremely affectionate. Often he was a real help about the ward. He showed marked affective instability in his sudden swings of mood. He had no paranoid ideas and realized that he had always been well treated by the authorities and that the judges and magistrates had always given him lenient consideration. No delusions or hallucinations were elicited, except an hallucinatory experience several years ago, evidently due to alcohol. Sensorium was normal. He was well oriented for time, place and person. There were no difficulties of memory, general information or calculation. Poor judgment and insight.

After a month's observation, Lawrence was discharged at his relatives' request. They were very anxious to have him re-enlist in the Army. Our follow-up records show, however, that after spending three weeks at home, Lawrence disappeared and he was not heard from again until six months later when he was working in a municipal department as a chauffeur. So far he had not collided with the authorities, although his letters show that he is beginning to become dissatisfied with this vocation.

A composite of these two patients gives a true picture of the constitutional psychopathic inferior and reveals the marked emotional, judgment and character defect. It is to be noted that the inheritance was badly tainted, at least in one instance, but, nevertheless a better mental hygiene of childhood might have provided some insurance against subsequent delinquencies. The second patient adjusted well in the Army and, there is unquestionably a measure of treatment value in standardized disciplinary routine. In the second patient, too careful supervision and more interest and encouragement after the initial reform school experience and during it, would probably have been wise steps in the direction of better citizenship. Universally poor results are obtained by the old-fashioned reformatory and much more hopeful is the establishment of vocational training schools.

Following are two cases illustrating sexual behavior, immoral or rather unmoral which is fairly typical of a group of psychopathic inferiors:

One of the authors was asked by the court to examine A. L., a white male, 26 years old and E. B., a white female, 31 years old.

A. L. was tried for aggravated assault and battery with intent to kill.

The verified account of the detective, concurred in by both A. L. and E. B., was as follows:

A. L. driving his car one morning in Brooklyn saw E. B. (whom he did not know), walking on the street and "picked her up." She invited him to her apartment and within a period of 24 hours, they had sex intercourse nine or 10 times. E. B. said she was going to Florida to look for work and the man offered to drive her as far as Baltimore. When they reached this city at night, he proposed sex intercourse, but the woman objected on the ground that they might be seen. Then by mutual consent, they drove to an isolated section of the city.

At this point the stories diverge. The woman insisted that they consummated the sex act in the car and that immediately after, the man struck her in the head with a hammer, rendering her unconscious. It is true that she was found unconscious some hours later with severe contusions and lacerations of the scalp.

The man with seeming frankness states that he cannot understand why E. B. would make such an absurd charge. She is, in his opinion, a fine woman and they got on splendidly together. His version is this: She was at the side of the road and he was in the car preparing for the sex act. Suddenly he heard a scream. "It must have come from E. B." Before he had time to reflect two thugs attacked him, beat him into submission and stole $18.00 from him. At the point of a gun pressed against his ribs, they forced him to drive the car away. After several miles the thugs left the car. He was dazed and did not know the direction but drove until he came to a more brightly lighted section of the city. He saw a policeman and was on the point of telling him the whole story, but refrained since he feared his wife might hear of his escapade. He then drove back to Brooklyn and went home. He cannot imagine why E. B. would make such a charge against him. He has heard that sometimes when someone has been rendered unconscious by a blow upon the head, they may be quite confused when they come to and not remember what has happened. He presumes that is why E. B. thought he had struck her when it is obvious to him that she must have been attacked by a confederate of the thugs who had assailed him.

A. L. is a fairly healthy young man of the sheik type, apparently engagingly frank and anxious to help clear up the mystery. Nothing is known of the family history. He was bright and got on well in school, being compelled to stop at the end of the first year high school in order to work. His work record is fairly good and he held one position for five years earning finally $45.00 a week. As a boy he was arrested for "breaking and entering" but he says he was at once released as it was only a boyish prank. When he was 18 years old he was arrested for rape of a girl 15 years of age. He was held for court, but denied the rape and swore that the sex relationship was by mutual consent. He escaped jail sentence by marrying the girl. Five years ago he was arrested on complaint of his wife for disturbing the peace. A. L. says he was trying to defend his wife against her sister and that the charge was withdrawn.

At the present time he is living with his wife but there have been many separations. There is one child six years old. His sex life has been grossly immoral and unbelievably promiscuous.

Practically nothing is known concerning the family history of E. B. Apparently during her girlhood and later, she frequently exhibited violent temper tantrums during which she was violent, abusive and destructive. She has a common school education. She married at 20, is divorced, and has a child, a girl, seven years old.

Physically, the examinations are entirely negative. She is an extremely comely woman.

Like A. L. her sex life has been promiscuous and immoral to an extreme degree. She is not a prostitute.

Both A. L. and E. B. discussed their sex lives freely. There was no shame reaction in either. They were in intellectual agreement with the assertion that it was "wrong" to live as they lived but it was quite obvious that in either instance, the emotional and ethical reaction to the behavior was nil.

The situation is presented since it describes the sex behavior of certain types of psychopathic inferiors, which should be designated unmoral rather than immoral. It is a typical constitutional psychopathic defect phenomenon. The intellect is capable of appreciating that the conduct is considered wrong. The emotional-ethical sphere is so circumscribed that there is an *absence of feeling about it.*

The situation, too, illustrates nicely, the inadequacy of our present medico-legal possibilities. In the instance of the man, a conscientious, very intelligent and sociologically minded Judge could do nothing but sentence the man to a term of several years imprisonment. There was, of course, no charge against the woman.

One of the authors was asked to outline a course of procedure from the standpoint of society. This would consider the segregation of both man and woman in work colonies, their sterilization and the removal of the children from their improper care. Unfortunately, only a very small portion, if any, of this program can be carried out.

M. W. Age 23. Male. Single. Sent in for observation November 16, for impersonating a minister and misrepresenting himself as a boy evangelist from Princeton. A typical case of pathologic lying.

The history obtained from the relatives stated that two years ago, the patient began to do street corner speaking, in association with another man. He worked with this man for about a year, then they quarreled and the patient left him. He told his parents that he had been attending a Bible Institute and night school, and that his greatest ambition was to be ordained. He preached at various churches about the city and had no difficulty in getting appointments. Several months ago, he embarrassed his family by forging a check for $25.00 and he did not seem very much upset when threatened with a jail sentence. He was later placed on parole by a lenient magistrate.

Normal birth and development. He had the usual childhood diseases. He always had good general health. He began school at the age of six and was graduated from grammar school at the age of 14. He has never been able to work regularly, holding numerous positions in the past few years. Otherwise, his habits were normal.

Father was once a drug addict and married twice. There was marked domestic infelicity in the home. His mother died in childbirth when the patient was about four years old. His father, born in Ireland, has had little or no education and is of an exceedingly nervous temperament. Two uncles have identified themselves with unorthodox religious sects, one is a Christian Scientist, the other a Russellite. Two brothers and one sister died in infancy, and one living sister is a trained nurse, apparently of fine intelligence and of very good character.

A well-known minister who has had many experiences with the patient gave the following history. "The patient began early to steal. His father had to keep his money under lock and key. The patient lost a position as a gardener because he stole a watch from a fellow laborer. He brought the watch home and presented it to his father, who, feeling that it was stolen, put it away until inquiry was made for it and then returned it. The patient's eccentricities come under four distinct heads: *First*, a very marked tendency to seek publicity; standing in public places where he has no right, calling attention to himself by shaking hands with people, sitting up front in meetings, speaking publicly at every opportunity. *Second:* his prevarications. He told stories of being a student for the ministry and of attending various institutions such as the Philadelphia School of the Bible, the Drew Theological Seminary, Franklin and Marshall College, Princeton Theological Seminary. He represented himself as an evangelist and preacher and secured engagements to preach in various churches and missions throughout the city. To illustrate: He would call a minister on the phone and say 'This is Mr. Green of the Senior Class of Princeton Theological Seminary. I am arranging for Field Day, for Princeton Theological Seminary, in the city of Philadelphia. I wish to send you Mr. M. W., the noted boy evangelist.' On such a basis he would make an engagement for himself to preach. Sometimes he secured permission and sometimes he did not. He has falsely represented himself and has made purchases under assumed names. To illustrate: He went to a store on Lancaster Avenue, said he was Dr. X. of West Church and wished to buy some clerical collars. They did not have these collars in stock, but he ordered a box of one dozen and told the clerk to notify him when they came, giving the name and address of the minister, so that the notification came to Dr. X. *Third:* His peculiarities have shown themselves by stealing in a manner which did not give evidence of any cleverness. For instance, in a public room he took a pair of gloves out of a man's pocket and placed them in his own pocket, not attempting to conceal them, but allowing them to stick half way out. He took Bibles with names and addresses in them and presented one to a young woman upon whom he called. *Fourth:* He has had varied and ardent courtships, becoming engaged to many girls and always telling them the same story of his preparation for the ministry and adding to it, fabulous tales of service in the army overseas which included the death of two brothers, 'killed in action.' He persisted in trying to lie out of an embarrassing situation until he was cornered and then became silent. Those for whom he has worked have been constantly exasperated by his unwillingness to do as he was told. He has a rather strange and striking memory, being able to repeat long portions of sermons which he has heard. When he was told to stop preaching, he said that he could not stop—it was in him and he 'just had to preach.'"

Patient has a good appearance, 5′ 9″ in height and weighs 150 pounds. All systems were normal. Blood pressure was 140/85. Laboratory data was normal in every detail including blood and spinal fluid.

During the early part of his stay in the hospital, the patient's behavior was very exemplary. He asked repeatedly for his discharge, insisting that he was normal in every respect. He described his religious experiences and stated that he attended a Bible School with an enrollment of 100 students. Upon investigation, it was found that there were only about 20 pupils in the school. He made his statements so convincing to the examiners that they were often taken as the truth. For example, he said that he had heard his father was critically ill and begged a visitor to go to his home. On doing this, it was found that the patient had not received any notification and his father was working as usual. He lied repeatedly concerning his religious training and his experiences, saying that he attended Princeton, received various certificates and degrees. Upon investigating his story, through Social Service, we were able to get the above facts from a well-known Presbyterian minister in the city. When confronted with his prevarications, the patient did not break down, but said "I am so sorry, Doctor, that you do not believe these things I say." He did not accept any of the evidence showing that his statements were false. He continued to lie continually to doctors and nurses and the other patients on the ward, so that there was absolutely no improvement during the period of observation. He was discharged at the request of his father, with the understanding that he was to be placed in a rural environment under rigid discipline. Later reports show that the patient still has many episodic outbreaks during which he relates remarkable stories. All reconstructive measures have been unavailing and the social service organizations who have come into contact with the patient are very anxious to arrange for his permanent commitment.

The pathologic liar lies for the satisfaction and, perhaps urge of lying, with insufficient objective. As the lies are elaborated, it is questionable how clearly the patient himself can distinguish between truth and falsehood. In any event falsification of memory would seem to be involved since normal uncertainty of memory is readily filled in with more and more assurance.

The lies are seemingly phantasy wish-fulfillments, not unlike the more or less normal phantasies of children and grow by a two-fold process of elaboration and by the continuous addition of material in the effort to continue the appearance of veracity.

Pathologic swindling is a natural outgrowth of pathologic lying and is often the realistic acting out of the phantasy.

Kleptomania and pyromania may represent similarly to pathologic lying, misconduct that is not proportional to any discernible objective but, on the other hand pathologic stealing and firesetting may be compulsive acts or otherwise neurotic and the result of sexual or other conflict. Likewise those highly irritable and arrogant individuals, called pseudoquerulants, who enter into numerous and prolonged legal actions, or if blocked in these directions become slanderous, should not be considered constitutional psychopathic inferiors unless their behavior represents a very long sustained reaction and is as it were grounded in their personalities. Litigious tendencies may characterize phases of almost any psychosis. Finally, sexual perversion needs to be very carefully scrutinized before it is labelled constitutional psychopathic inferiority since sexual perversion in itself is not indicative of mental disease, though sometimes it may be a deteriorative symptom.

Treatment. It is obvious that treatment in these disorders will be difficult and experience through the years has confirmed this theoretical conclusion. It would appear that the best method of treatment of these disorders would be their prevention. Theoretically, it would appear that if every child could have loving, dependable, stable, understanding parents, and that the world about him would offer complete satisfaction of his impulses on a basis that would be acceptable to the environment and to his fellow men, that there would be no need for the development of these or other forms of neurosis. Since we do not live in "Utopia," and since we have no immediate prospect of having one, the prevention of these difficulties will probably have a limited application. Most parents probably do as well as they can by their children, within the limits of their understanding. P.T.A. and other child study groups which have become popular through the activities of our various mental hygiene clinics may have done much toward preventing future generations of psychopathy—time alone will tell. Too often, it is feared, mothers only partially hear, or repress part of what they have heard, and the so-called modern mother perhaps does less well by her child, because she is attempting to do what she thinks she heard some authority or pseudoexpert say to do about rearing her child rather than following her own natural impulses.

At least, the possibilities of prevention offer enough hope that they should be continued.

The therapy of the psychopath itself has undergone many variations. At present, most people feel that institutionalization for either short or long periods offers little benefit to the patient himself, although it may be necessary to do so to protect the public from various types of criminal activity. Analysis, in either an orthodox form or modified form has been recommended. This probably offers the greatest hope of any permanent improvement in these patients. Analysis is difficult, however, because the symptoms themselves bring about instinctive gratification and afford the patient a great deal of pleasure. The neurosis itself is on a very deep level and requires a very complete and prolonged analysis if any good effect is to be brought about. Experiments with group therapy, both analytically and non-analytically oriented offer interesting possibilities and these experiments should be continued under carefully controlled circumstances.

The use of various types of lobotomy, leukotomy, trans-orbital operations, etc., in psychopaths do not appear to your authors as being rational. To add an organic defect reaction to a patient who is already having difficulty controlling his impulses, does not make sense, and we cannot advocate them until we have seen several very well controlled and followed series of patients who have had this type of procedure on an experimental basis. Such procedures are going forward, but not in our clinics.

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CHAPTER 8

REACTIONS OF DEVELOPMENTAL AND CONSTITUTIONAL DEFECTS

MENTAL DEFICIENCY*

Mental deficiency is an interesting and vital community problem and has an important bearing on mental hygiene. The prevalence of feeblemindedness, in the opinion of Fernald (based on numerous army tests and examinations of children in special classes in the schools), is much greater than is realized. For instance, there are said to be from 40,000 to 60,000 feebleminded individuals in Massachusetts and, probably in the United States there are more than half a million. Furthermore, 400,000 children do not "get on" in the public school system. There are about 300,000 mental defectives in England and Wales. Lewis surveyed six areas in England, three rural and three urban, and found an incidence of mental defect amounting to 8.57 per each 1,000 individuals in the general population, the frequency being definitely higher in the urban areas. The ratio of idiot, imbecile and moron was as 5:20:75. During World War II the Army discharged 137,000 men for mental deficiency or other constitutional defect, and a much larger number was rejected by the Selective Service boards. There are more than 1,000,000 mental defectives in the U.S.

Etiology. There is considerable dispute as to the etiologic importance of inheritance but obviously it is significant enough. Other causative factors are congenital syphilis, birth injury, such inflammatory infections as meningitis, encephalitis, certain neurologic diseases, head trauma, endocrine disturbances and imbalances. There are other factors which need further investigation, such as the age of the mother at the birth of the child, the place of the child in the order of birth and so forth.

Classification. Exact classification must await more definite criteria. One of the earliest classification attempts divided mental defect into congenital and acquired. A scientific outgrowth of this simple division is the (1) Primary and (2) Secondary Amentia of Tredgold, indicating respectively (*a*) a defective developmental potential in the germ cell and (*b*) an arrest of cerebral development by external factors acting after fertilization. There is here, of course, the obvious limitation that if on examination no external factor is discernible, the patient is stigmatized primary amentia. Penrose calls attention to the merits of the classification of Lewis "that mental defectives are roughly divisible into two groups: one represents the lower part of the normal frequency distribution curve of intelligence, and its members are termed subcultural; the other group is formed by pathologic cases. One great value of this attempt at classification is that it placed emphasis on the fact that a very large number of those persons, who are labeled mentally defective, are really just as much a part of the normal population as people who are more intelligent than their fellows."

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* There is a growing and praiseworthy trend in the direction of discarding such terms as mental defect, feeblemindedness, idiot, imbecile, moron, etc. which in the course of time have gathered very unpleasant implications, and substituting the term "intellectually limited."

Biometrics has fostered a classification that gives to an idiot an I.Q. from 0 to 20; an imbecile an I.Q. from 20 to 50; while a moron has an I.Q. above 50 and below 70.

It is important to translate these classifications into practical terms that have clinical and medico-legal significance.

According to the Mental Deficiency Act of Great Britain, the following definitions are laid down:

1. Idiots, that is to say, persons in whose case there exists mental defectiveness of such a degree that they are unable to guard themselves against common physical dangers.

2. Imbeciles, that is to say, persons in whose case there exists mental defectiveness which, though not amounting to idiocy, is yet so pronounced that they are incapable of managing themselves or their affairs, or, in the case of children, of being taught to do so.

3. Feebleminded persons, that is to say, persons in whose case there exists mental defectiveness which, though not amounting to imbecility, is yet so pronounced that they require care, supervision and control for their own protection or for the protection of others, or, in the case, of children, that they appear to be permanently incapable by reason of such defectiveness of receiving proper benefit from the instruction in ordinary schools.

4. Moral defectives, that is to say, persons in whose case there exists mental defectiveness coupled with strongly vicious or criminal propensities, and who require care, supervision and control for the protection of others.

The Act further stipulates that "mental defectiveness" here means a condition of arrested or incomplete development of mind existing before the age of 18 years, whether arising from inherent causes or induced by disease or injury.

Clinical experience has tabulated many pathologic types which have, as well as classification value, a certain measure of etiologic significance.

MONGOLISM. So-called originally because of the resemblance of face, skull, etc., to Mongolian features. The upper limit of intelligence is seven years. Usually it is lower. These patients are apt to be good-natured, lively and imitative. Penrose finds the following much more common in mongolism than in other mental defect:

A. Intelligence quotient between 15 and 29 inclusive, i.e. the most likely range of intelligence for mongols.

B. Cephalic index 0.83 or higher.

C. Epicantic fold on either eye.

D. Fissured tongue.

E. Conjunctivitis at time of examination.
F. Transverse palmar line on either hand.
G. One crease only on minimal digit of either hand.

Mongolism is always congenital and many of the signs are considered as fetal remnants. It occurs in about the ratio of 0.1 of 1 per cent. The most significant etiologic factors are the comparatively advanced age of the mother and father[1] and the order of birth, more than 50 per cent of mongols being the last born of the children. It is possible that on account of the age of the maternal tissues the embryo does not receive sufficient nourishment early in its development. Other factors that have been thought to be etiologically significant are congenital syphilis and inheritance.

BIRTH INJURY CASES. Birth injury is unquestionably one of the causes of mental defect. The indiscriminate use of forceps or in some instances unduly prolonged labor may be operative.

Little's disease and congenital athetosis, both often manifesting mental defect, are usually cited as instances of birth trauma. Among 500 defectives, Penrose found eight cases of spastic diplegia with a history of difficult labor but in six instances of congenital athetosis, there was no such history. The intelligence of the congenital athetosis group is usually better than in Little's disease and it has been suggested that in the athetosis group the hemorrhage has occurred in utero. Doll insists that there is a typical psychologic picture in mental defect produced by birth injury without regard to the neurologic picture. These patients improve markedly under proper training.

CEREBRAL INFLAMMATIONS. Here are included chiefly syphilis and encephalitis.

Congenital syphilis accounts for about 10 per cent of institutional defectives and usually nothing is noted until the age of one year or more. Then various general and neurologic signs, including palsies of the limbs, eye muscles, etc., and the mental defect appear. There may be any level of defect but usually there is idiocy or imbecility. The mental arrest and deterioration of juvenile paresis appearing later in life is readily recognized.

Amentia is not the usual result of encephalitis epidemica. It is more likely to produce severe behavior disorder but about 2 per cent of institutional defectives have a history of encephalitis.

Occasionally other inflammatory reactions, cerebrospinal meningitis, polioencephalitis and poliomyelitis are implicated in mental defect.

There are many other manifestations of mental defect that derive their names, usually from outstanding clinical signs:

MICROCEPHALY. The head is small, the cephalic index averaging 0.75, the convolutional markings are simple and the brain weighs only 800 to 900 Gm. Microcephalics constitute about 1 per cent of institutional defectives and are often troublesome and bad-tempered, but trainable.

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[1] Average age of mothers of 154 mongols was 37.2 years; of fathers 39.4 (Van der Scheer).

HYDROCEPHALY. The important type is due to blocking of the ventricular outlets or failure of spinal fluid absorption, producing an evenly distributed swelling of the cranium with a content sometimes amounting to more than 2,000 cc. The mental defect is often not severe. It may be caused by congenital lues, nonluetic basal meningitis, and possibly internal hemorrhage sustained at birth.

CRETINISM. This is a condition due to insufficient thyroid activity, constituting about 4 per cent of institutional defectives. Cretinism resembles mongolism but in the former the cephalic index is high, while in the latter it is normal or low. The division of sporadic and endemic cretinism is usually made and the endemic form has a geographic distribution more or less restricted to mountainous districts, far from the sea, in which there is an insufficient amount of iodine. The treatment of cretinism is the *early* and thorough administration of thyroid extract.

PITUITARY DYSFUNCTION. The chief pituitary syndrome associated with mental defect is Frölich's syndrome (dystrophia-adiposo-genitalis). There may be other pituitary adiposities and gigantism. An interesting but rare pituitary disorder is the Laurence-Moon-Biedl syndrome, occurring in siblings and marked by retinitis pigmentosa, polydactyly, and sometimes night blindness.

AMAUROTIC FAMILY IDIOCY. This is rare, but is constantly associated with profound mental defect. The infantile type begins in the first year. There is degeneration in the macular region of the retina ("cherry red spot"), eventuating in blindness, flaccid paralysis with wasting of the limbs and death usually at the age of two. The juvenile type begins later and its progress is slower. It occurs mainly in the Jewish race.

Other rarer conditions associated with mental defect are porencephaly, epiloia, neurofibromatosis and nerve degenerations that are somewhat hereditarial, pseudohypertrophic muscular dystrophy, Friedreich's ataxia, Schilder's disease (encephalitis periaxalis diffusa) and Wilson's disease (progressive lenticular degeneration). There are also sensory deprivation types in which the loss of sight or hearing early in life, often due to inflammatory lesions, conditions mental defect. Many of these patients are very trainable. Many of these conditions involving neurologic inflammatory reactions and deficits and endocrine diseases and imbalances are marked by epileptic phenomena as well as mental defect.

Examination: HISTORY. The patient is entitled to thorough consideration from the angles of history and physical examination. It is only in this way that etiologic and therapeutic possibilities can be developed The history should include the family record, which thoroughly inquires into the histories of the ancestors and the siblings. The age of the parents at the time of the birth of the child is important, as is, too, the order of the birth of the child.

The personal history begins with *conception* (Contraception? Alcohol? Other Poisoning?) *Pregnancy* (Mother's health? Illness? Endocrine disorder?

Drugs, alcohol or other toxins? Exposure to x-ray or radium? Incomplete miscarriage? Unsuccessful abortion? Emotional condition during pregnancy? Mental shocks? Etc.). *Birth* (Complete history of the delivery. Full term? Presentation? Instrumental? Condition of child at birth? Deformities? Weight? Etc.) *Post Natal* (Breast fed? Diet? Convulsions? Diseases and injuries? Age of talking and walking? Disposition? Emotional experiences? Neurotic traits? Frights? Etc.). In fact there is needed a complete history of the child and its development, physically, emotionally and intellectually. Where there are older siblings, it is important to ask for comparisons with the other children at various ages. The school history should be complete.

PHYSICAL EXAMINATION. Penrose stresses the necessity for intensive physical examination including the nervous system, vascular and respiratory systems, alimentary system, sexual organs, endocrine system, skeletal system, stigmata, skull measurements, general physique, stature, examination of the urine and blood, blood chemistry, blood Wassermann, spinal fluid, etc.

PSYCHOMETRICS AND PSYCHOLOGIC TESTING. Psychologic tests are valuable but they need to be interpreted with judgment. A diagnosis should not be made from the data of any one test, but upon many careful tests concerning intellectual ability, manualability and handicaps. The following considerations should be kept in mind (1) An intelligence test is never infallible and is only approximately correct. (2) When the mental level is higher than 12 years, there are many sources of error. (3) A psychometric test gives little information concerning the emotions. (4) Unless the child understands the requirements, the test is not valid. (5) Certain factors, such as language difficulty, lack of coöperation, fear and emotional upheaval will interfere greatly with accuracy. (6) Scarcely ever is a diagnosis to be made solely upon the result of the test. The findings must be viewed in the light of the entire examination.

The better known tests are the Binet, Stanford-Binet, Porteus Maze, Koh's Block Design test, Merrill-Palmer, Army Alpha tests and others. A limited measure of information concerning the emotions may be obtained from some intelligence tests. Retardation, evidence of daydreaming, "scattering" (inability to pass easy tests, along with the capacity to pass more difficult ones) are in some sense indicative of the presence of emotional disturbance. Word association tests may be used in the higher grades of mental defect.

Psychotic Symptoms in Mental Defect. Mental disease and mental defect are fundamentally different, and psychotic episodes in defectives are usually incomplete and poorly defined. Periods of confusion with hallucinosis or outbreaks of uncontrollable and unrelated motor activity are fair examples. The intelligence defect stands out prominently. When the symptoms are more elaborate and approximate more completely manic-depressive or schizophrenic syndromes, they should be considered as belonging to these groups. Usually in dementia precox the clinical pattern is quite simple—mannerisms, negativism, hallucinosis, echolalia, echopraxia, perhaps abortive ideas of persecution and grandeur. "Chronic mania" has been reported. Hysteria may occur. There is a considerable amount of homosexuality in morons. Statistics as to the frequency of criminalism are extremely variable, ranging from 3 per cent to 55 per cent. According to Fernald, only 5 per cent of mental defectives have behavior disorders and delinquent tendencies and of these Fernald states only 2 per cent are serious.

A few illustrative cases are cited.[1]

J. G., an excitable idiot, is now 19 years old, male, and was admitted to the Training School in 1928 because his parents were afraid that he might injure himself during his periods of excitement.

Family History. A maternal grandfather died of cerebrospinal-syphilis. One brother and one sister are normal.

Personal History. First-born child, born at full term in ordinary labor and considered a strong, healthy baby until a severe attack of pneumonia as an infant. Following this, he had to be retaught things that the parents felt that he had learned. The reteaching process was extremely difficult and in most instances the results were negative.

Physical Examination. J. G. is tall, fairly well developed but poorly nourished. There is general pallor, marked internal strabismus of the right eye, irregularities of the teeth and a marked staccato gait. The Wassermann, Dick, and Schick tests are all negative.

Psychometric Grading. A cross section of a number of tests and the general reactions of the patient would give him an approximate mental level of 18 months.

Mental Status. During a residence in the Training School of more than seven years, J. G. scarcely made any progress at all. He has learned to give a slight amount of help in dressing himself and usually he is able to feed himself with a spoon. His excitable periods have increased in duration and intensity and during these excited phases he tears his clothing, punches other boys, destroys anything that comes within his reach and is very noisy.

This is a fair example of the ill-defined psychotic episodes that may occur in the lower grade feebleminded. The case is of interest, too, since it is possible that the mental defect was caused by pneumonia.

M. N., an imbecile with psychotic episodes, is a male, 22 years old, and was admitted to the Training School in 1925. He has been repeatedly tested and according to the Binet and other classifications, there is a mental age of five years and eight months and an I.Q. of 36.

Family and Personal History. Little is known of the antecedents beyond the facts that the father was classed as a dull normal and the mother was definitely feebleminded. She deserted this child at the age of four months and nothing is known of her subsequent history. There is nothing unusual in the personal history. The boy was tried in school but on account of his pugnacious attitude toward his teacher and his classmates, he could not be retained in ordinary schools and was sent to the Training School.

Physical Examination. The patient is fairly well developed and well nourished with no physical symptoms other than an asthmatic type of respiration with wheezing rales on expiration. The Wassermann, Dick, and Shick tests are all negative.

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[1] Case records supplied through the courtesy of Dr. Whitney of the Elwyn Training School.

Mental Status. At first, M. N. had brief periods of mental excitability and temper tantrums but during the past few years the psychotic picture gradually became somewhat more elaborated. He now has fairly well-defined periods of great motor excitability, lasting two or three months during which he tears his clothing, kicks, bites, spits and scratches, and tries to break dishes. Often the excitement is so severe that he has to be restrained. There are shorter periods during which he is quiet and inactive and sometimes refuses to eat.

The psychotic episodes in this patient are better defined than in the preceding case and there is some reason to regard them as demonstrations of a very simple type of manic-depressive psychosis.

R. S., an imbecile with schizophrenic-like manifestations, is a boy 16 years old and has been in the Training School for six years. He is an imbecile with a mental age of six years 10 months and an I.Q. of 49.

Family and Personal History. Very little is known since the parents deserted their children soon after the birth of this patient. There is an older brother and an older sister, both of whom are apparently normal.

Physical Examination. R. S. is a short, fat, stupid-looking boy with a marked internal squint of the left eye, and a moderate degree of lordosis. The Wassermann, Dick, and Schick tests are all negative. The tonsils and adenoids were removed six years ago.

Mental Status. On admission to the Training School, R. S. manifested an interest in the classroom work, but was able to make only very indifferent progress. In manual endeavors he showed some aptitude and enjoyed particularly making raffia baskets.

During the first two or three years he was an average imbecile boy. He associated with other children, enjoyed group activities, and did not give any particular trouble to the nurses.

About three years ago, his first psychotic outbreak occurred. The patient suddenly began to throw tools at other boys in the workshop, make peculiar, eerie noises and facial grimaces, particularly marked by a bilateral upward rolling movement of the eyeballs. The first outbreak was of short duration but for quite some time after, R. S. was extremely sullen and unresponsive. Then there occurred a few months' remission. He learned to cane chairs and took pride in his work. Soon, however, a second psychotic phase appeared. During this attack he attempted to slash another boy with a knife. A little later he drove a hammer through a piece of chair-caning that he had just finished. Immediately afterward, he seemed quite surprised that he had done such a thing. It would seem probable that during a display of active psychotic symptoms, R. S. is reacting to hallucinations of hearing and is attempting to obey the voices. The episodes of mental symptoms continue and there is much evidence of increasing detachment from reality.

This is an example of the psychotic displays that occur which probably deserves to be thought of as schizophrenic. Kraepelin and other observers called attention to the fact that schizophrenia in primitive people is a very simple matter. It must be remembered that the amount of material available for the psychotic structure is quite limited. Therefore, in mental defectives too, one can expect only fragmentary, abortive, and simple schizophrenias.

J. O., a moron with psychotic symptoms, a male, 30 years old, was admitted to the Training School in 1921. A series of psychological tests places his mental age at nine years, four months and gives him an I.Q. of 60.

Family and Personal History. There is record of mental disease and mental defect on the maternal side. Nevertheless, three of the children are said to be normal. J. O. is third in order of birth, born in normal labor, and was a healthy baby. He was nourished by his mother. The family have always attributed this boy's condition to a serious physical hazard which the mother experienced three months prior to the birth of J. O. The maternal grandmother had died and this boy's mother had to make a trip of 250 miles and then drive eight miles through the snow to attend the funeral. After this exposure, she was taken ill and did not recover until after her confinement.

Physical Examination. J. O. is fairly tall, well developed, with a staring, vacant expression. The entire physical examination, including the Wassermann was negative.

Mental Status. At the Training School he made slow but fairly good progress along academic and manual lines for about three years. During this time there was the manifestation of a sullen disposition and an antagonistic attitude towards the teachers. J. O. read a great deal, preferred to play alone and only very rarely would he take part in group activities or athletics.

Five years ago, he began to show frank symptoms of mental disorder when he began to tear his hair, his clothing and to attack other patients. His psychosis now shows definite cycle, beginning with a period of excitement during which he has to be restrained. Gradually the excitement subsides and J. O. becomes inactive, retarded, and probably depressed. During this phase, it is often difficult to induce him to eat or dress. The intervals between the cycles of the psychosis are gradually lessening and the psychotic phases are becoming more pronounced and prolonged.

This is an example of a psychosis occurring in a moron and beginning at the age of 25.

The increasingly better definition of the phases of excitement and inactivity and the well-defined tendency to assume a circular course would indicate a classification of manic-depressive. Again, as in the case of schizophrenia, the mental defective has far less associative material to draw upon and therefore, one must not expect to witness the construction of an elaborate psychotic structure.

Modern treatment methods sometimes offer hopes of shortening and alleviating the psychotic episodes in these patients. The following case illustrates a fairly well socialized, retarded individual whose psychotic episodes are satisfactorily managed by electroshock treatment. The use of this treatment should be in terms of handling the patient's overactivity and assaultive symptoms and should not be continued once the patient's behavior has returned to what the family call his normal level.

Patient is a 35-year-old white male, admitted to the hospital on June 28, 1946, with a complaint that, "I just couldn't stand living any more, couldn't face it, got so I couldn't take in my reading." History reveals that the patient first had an episode in 1936, at which time he lost interest in life, became depressed and attempted suicide. He was given some shock treatment at that time and recovered. He felt fine until the day of admission. At this time he decided he would kill himself. He attempted to electrocute himself and when this did not kill him he cut his wrists and then attempted to hang himself. He was found hanging from a rafter in the barn and brought to the hospital by his family. Patient lives with his mother and supports himself by doing odd jobs around the farm, by mowing lawns, and other menial tasks. He has not had any difficulties with the law. There apparently has been no aberrant sexual activity. Mental status revealed the patient to be polite and attentive, very much depressed, he thinks he is losing his mind and states he cannot concentrate on books. He seemed rather anxious and ill at ease in the hospital. Sensorium revealed that he was oriented as to time, place, and person. He had difficulty in repeating digits forward or backward. He had marked difficulty in retention. His grasp of general information was very scanty. Neurologic examination was essentially normal except that the patient walked on a rather broad base and with rather jerky movements. There is also a tremor of the tongue. Tendon reflexes and Babinski reflexes were within normal limits. Patient felt that his difficulty was due to chronic masturbation. Psychometric examination placed him in the lower portion of the moron bracket. It was felt that the patient's psychotic symptoms were the result of a person of limited intelligence attempting to adapt himself to a rather complicated world and that his difficulty in supporting himself and insecurity brought about by the advancing age of his mother resulted in feelings of hopelessness and suicidal preoccupations. Patient was given five electroshock treatments, considerable reassurance concerning the availability of other relatives to help him and was dismissed. He seems to have made a good recovery so far as the depressive and suicidal trends are concerned and at the time of this edition, some three years after his dismissal, he is still adjusting well in the community.

Mental Defect and Mental Retardation. It is important for the student to remember that there is a very important consideration involved in the differential diagnosis between true mental deficiency and mental retardation. Mental retardation may be defined as intellectual backwardness due to some physical, mental or environmental cause. It is usually true that if this cause can be discovered and removed, the child will return to a normal intellectual level. One of the authors was able to determine that in 56 per cent of the children brought to the Out-Patient Clinic, on the suspicion of being feebleminded, actual mental deficiency did not exist at all. There are instances in which the retardation is due to congenital syphilis, anemia, parasitic infections, heart and kidney disease, infected tonsils and adenoids, eyestrain, tuberculosis, rickets and many other conditions. Sometimes, an analysis of the case reveals the fact that there is a mental conflict in the mind of the child which is absorbing all his attention, and, therefore, is preventing him from making progress in his school work. Again, it may be, that a difficult or destructive environment exists in the home which is utilizing energy which should be applied to the acquisition of education. To make a diagnosis of mental deficiency is a serious matter and it should not be done on the basis of any single test. It is certainly true that while the psychometric measurement is very valuable, yet, its value is often relative, and it should never be the primary factor upon which judgment is based.

Treatment: PREVENTION. The discussion of the prevention of mental defect leads into debatable territory. There are four eugenic considerations, (a) prohibition of marriage, (b) contraception, (c) segregation and (d) sterilization. The first, obviously would not prevent the birth of illegitimate, defective children. The second would scarcely be adequately carried out by the majority of defectives. Segregation of all defectives is scarcely practical, since they exist in such great numbers that the economic burden would be staggering. Sterilization offers some help but is scarcely the panacea that eugenics supposes. Penrose believes it would only lessen the incidence of mental defect by 5 per cent. This is based on the assertion that only 5 per cent of defectives have one or the other defective parent.

Too little attention is paid to preventive measures during pregnancy, labor and during infant life. The health of the expectant mother should be carefully safeguarded, physically and emotionally. The diet should be free of any vitamin or other deficiency. If there is lues, it must be skillfully treated. Every resource of obstetrics should be directed toward minimizing birth injury. The infant should be brought to its optimum and it is particularly important to be sure that the necessary vitamins are included in the diet in sufficient quantities.

Treatment of Mental Defect. Unfortunately, there are not many opportunities for specific therapy. In a few of the endocrine situations, like cretinism and, now and then in some of the sensory deprivation states, brilliant therapeutic results are obtained, in the one instance by thyroid, in the other by expert training and teaching. If there is congenital lues it should be vigorously treated. Birth trauma or head trauma later in life needs the benefit of expert neurosurgical opinion. Orthopedic surgery is very helpful in many paralytic cases.

General physical hygiene and the care of the body is doubly important in mental defectives since without teaching and habit formation even ordinary cleanliness will be neglected and many sources of trouble, such as decayed teeth, will develop.

The question of obtaining the maximum of mental capacity and producing a measure of self-support and satisfaction in life, resolves itself into the possibility of a special training and educational program. This is admirably done in many institutions, public and private.

The economic and social problem of mental defect is too vast to be answered entirely by the institutional segregation of mental defectives. It is necessary to provide an extramural program. This should include (1) early recognition, classification, and registration of the feebleminded, (2) training during the formative years, (3) supervision in the community, (4) institutionalization of a small percentage comprising chiefly low grade types, those who have criminal tendencies, those who are seriously delinquent or criminal and those who are severely handicapped physically.

Early recognition, classification and registration are possible through routine, standardized neuropsychiatric examination of school children. Registration can be carried out through the Board of Health by an obligatory method, such as is now employed for contagious diseases. Adequate clinics, either stationary or traveling, are needed for this step, and in this way the number of feebleminded in the community can be accurately estimated and their care planned.

After recognition, early training on a large scale is only possible through the organization of special training facilities in our public school system. Through this specialized instruction and proper habit training, the child often is enabled to become self-supporting and better able to take care of himself. This plan is definitely more valuable and economical than attempts at permanent institutionalization, even if the means were available for this step.

With some of these thoughts in mind, the White House Conference placed itself on record as follows:

> It is to be hoped that before many years the public school, through special classes and other pedagogic provisions, will be so organized to deal with mentally deficient children that it will be the largest and most important single agency in developing them for economic and social usefulness and in preventing social failure. Indeed, it already fills such a place, in some states, and if the following points were always observed, would fill it in many more:
>
> Special class work with teachers specially trained, particularly in hand work, should be provided for a relatively large group.
>
> Visiting teachers, nurses, educational counselors, and so forth, should have a thorough understanding of the problems of feeblemindedness.
>
> Parents of feebleminded children should be advised by the visiting or special teacher. This is, in many cases, a difficult task requiring great tact.
>
> The curriculum should be eminently practical with the emphasis on the manual, although academic work should be given according to the child's capacity—fourth or fifth grade level is usually the limit. At suitable intervals there should be a program of thorough re-examination to determine the child's progress.
>
> Adequate follow-up work and vocational guidance should be instituted.
>
> Diversification should be practiced wherever possible, since the higher-grade feebleminded vary widely among themselves, and full recognition should be given this fact in the organization of special classes.
>
> Children with special disabilities should not be dealt with in the same way as the others.
>
> It has been suggested that, in addition to the strictly special class work, regular classes should be differentiated, that is, they should make provision for ability grouping with correspondingly modified curricula.
>
> Manual training should be substituted for certain forms of academic work; in this way such classes (sometimes called Z classes) could well receive intellectually subnormal children who might otherwise be placed in special classes for the feebleminded, and many other children who do not receive much lasting benefit from the strictly academic subjects.
>
> The present curricula are fetishes, not suited to modern life. From the elementary grades through the college, they are too academic. Inadequate even for average children, they are disastrous for the mentally deficient. The social prestige attaching to traditional types of education makes it very difficult to persuade parents of these children to accept something just as good, the more so because the attitudes of many teachers buttress the prestige of educational tradition.
>
> In order to train mentally deficient children, we must not only modify curricula, but we must also prove to those parentally and financially responsible for them that the modified education is not merely just as good but is infinitely better because it really does educate, that is, it prepares for successful living.
>
> Up to date only a few changes in curricula have been made to meet more adequately the needs of mentally handicapped children. Although vocational courses

have been introduced, either in specialized schools or as adjuncts of junior high schools, there has been no clear-cut policy of selection, and this, together with the stigma attaching to nonacademic courses, has rendered most of the courses far less effective than they might be.

Changes should be far more thoroughgoing. Teachers in the elementary schools should prepare their intellectually subnormal and dull pupils for the industrial courses in the high schools. While at this time a detailed program is not feasible the curriculum must be changed to meet the needs of the large group of children who are not profiting by the present academic curriculum. By planning a course in the manual activities with related academic work so organized that pupils will be promoted on the basis of achievement, they will be in the junior or senior high school at the proper age, accomplishing something worth-while, and not humiliated because they are not in the college preparatory courses.

Unfortunately at present the average public school extends its differentiated provisions, when it has any, to 2 per cent of the school population at most, and then usually in the form of special classes for those who may be labeled as a typical or markedly retarded, generally feebleminded, from whatever cause. The large group who are intellectually unable to derive maximum benefit from the regular curriculum, and who would be helped to a marked degree by a change in the type of training they receive, are not trained for those occupations in which their handicap of intellectual subnormality puts them at a minimum of disadvantage. The percentage of those handicapped by simple intellectual subnormality is much larger than that of those handicapped by feeblemindedness, and if the former group are to be cared for, present differentiated provisions must be greatly increased. Special classes as now conducted are not enough.

Finally, any comprehensive plan must provide for supervision and colonization.

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CHAPTER 9

PARANOID REACTION TYPES AND PARANOIA

Introduction. We have begun to realize that it is unwise to attempt to formalize psychiatry too rigidly. More important than narrowly restricted diagnostic disease concepts is the consideration of underlying psychopathologic mechanisms and the reaction of the total personality of the patient. It should be remembered, however, that some of the hard-won concepts of clinical psychiatry are quite valuable diagnostically and cannot be discarded; there is, for instance, the syndrome of the depressed phase of manic depressive, with its emotional depression, psychic slowing and motor retardation, or the converse in mania, the syndrome of clouding of the consciousness, motor restlessness and hallucinosis that is so often indicative of a psychotic reaction to toxicity; the striking dementia picture that so frequently denotes deterioration of the mind, and several others. Among these may be fairly included the paranoid reaction. It occurs so frequently in the psychoses that we should have some idea of its scope and significance.

Literally, paranoid means like or resembling paranoia. The clinical conception of paranoia will be developed in the discussion. Paranoia is a rare disease. State hospital statistics in the United States, covering a period of years, show paranoia and the paranoid conditions have been diagnosed in 1.9 per cent of the cases admitted. Many physicians have never seen a true case of paranoia. In the Philadelphia General Hospital one of the authors has been willing to make the diagnosis in but three of over five thousand successive admissions. It occurs more frequently among men than women. Kraepelin states that 70 per cent of the cases observed by him have been men.

In two-thirds of the cases the onset of the disease occurs in the thirties. It is, therefore, mainly a disease of middle life. Cases do occur, however, in the twenties. The course of the disease is always chronic and all psychiatrists agree that it is incurable. Anatomical findings are wanting. All cases of paranoia should be committed since they are always potentially dangerous; however, patients do get along outside for many years and it is extremely probable that many never come to the attention of a psychiatrist.

Several authorities find that in paranoia and paranoid conditions the homosexual element is frequent and that often the elaboration of the delusional structure is on the basis of resultant feelings of inferiority and guilt, repressed and projected upon individuals in the environment. Noyes believes too, that repressed homosexuality is a frequent cause and defines these conditions as "personality reactiôns characterized by mechanisms of projection or of compensation or by both, not precipitated by toxic or organic states and not accompanied by dilapidation of affect, of conation or associative processes." The Kraepelinian definition still retains its descriptive force: "A fixed type of disease due exclusively to internal causes and characterized by persistent systematized delusions, the preservation of clear and orderly thinking and acting and by absence of hallucinations." Briefly, and in this connection, Freud believes "that any serious conflict is liable to cause a regression of the sublimation to the point of fixation. Persons who cannot rise completely out of the stage of narcissism and are thus prematurely fixed or rested in the evolution of their dispositions are exposed to the danger that a flood of libido which finds no outlet, sexualizes their social tendencies and reverses the sublimation achieved in the course of development. The libido of the paranoiac is then projected upon those about him. The symptoms are the creation of the patient not of his environment. The paranoiac tries to prove that the trouble is not with himself. The symptoms can only be understood when the alleged disturbing factors, the persecutors are understood to be but symbols of one aspect of his psychosis, the regression aspect which really embodies the energy which is working to his detriment."

A sine qua non to the understanding of the paranoid problem is an appreciation of the paranoiac constitution as outlined by Meyer. He emphasizes a readiness to see biased meanings, a suspiciousness and an asocialism. There follow pathologic interpretations of the casual and undeliberate actions of others. For a long time the conduct on the surface is not disturbed but inwardly there is a rigidity of thought, a loss of flexibility and lack of capacity to form correct judgments concerning environmental happenings.

He recognizes several gradations in the evolution of the paranoiac reaction:

a. Uneasy, brooding, sensitive type, with an inability to correct notions and to make concessions.

b. Appearance of dominant notions, suspicious, or ill-balanced aims.

c. False interpretations, with self-reference, and a tendency to systematization without and within.

d. Retrospective or hallucinatory falsifications.

e. Megalomanic developments or deterioration, or intercurrent acute episodes.

f. At any period antisocial and dangerous reactions may result from the lack of adaptability and excessive assertion of the aberrant personality.

It is important for the student to realize that there are basic and essential differences between paranoia and "paranoid." The former is an extremely rare psychosis; the latter is a common syndrome of mental symptoms which may occur in almost any psychosis. The following table from Claudé may be helpful in making this important distinction.

Paranoiac Psychoses	*Paranoid Psychoses*
Exaggeration of constitutional tendencies.	Distortion of tendencies. Fragmentation of personality.
Amplification of personality without signs of conflict.	Signs of conflict.
Contact with reality preserved.	Loss of contact with reality.
Exaggeration of affectivity. (Egocentricity.)	Alteration of affectivity. Dissimulation of egocentricity.
Logical development (of delusions) upon false premises.	Illogical and imperfect development of delusions.
Sound systematization in line with tendencies.	Looseness of systematization.
Frequent ideas of grandeur.	Idea of grandeur without strong conviction. Frequent indifference with regard to persecutions.
Exaggerated feelings of prejudice.	Early manifestation of delusion.
Self-control better preserved.	Absurd reactions.
Slow development of defense measures.	Hospitalization occurs early on account of odd behavior.
Recourse to legal measures.	Delusions are coherent and expansive. Memory falsification.
Submission to authority.	Stories are incoherent, changeable and absurd. Reasoning poor.
Delusional activity may not manifest itself for many years, permitting social adaptation to continue.	Delusions change; are polymorphic.
Delusional formation is coherent, only slowly expanding. Memory good. Intellectual activity intense. Ingenious methods of defense. Reticence.	Apathy, autistic life of fancy.
Delusional system is fixed and well constructed.	Loss of intellectual activity.
Emotional reactions are lively.	Old acquisitions preserved.
Possibility of intellectual growth exists.	Nothing new is acquired.
Neurovegetative reflexes are active.	Neurovegetative reflexes often diminished or lost.

Presentation of Clinical Material. Very briefly, we shall present three patients, revealing psychotic mixtures heavily tinctured by what may be called paranoid. Later a few salient and differential aspects of the psychoses will be indicated.

The first patient is a colored man, 41 years old. His family history is recorded as negative for mental disorders or defects. A few facts from his prepsychotic history may not be amiss: With the exception of the usual diseases of childhood and several attacks of Neisser's disease complicated by swollen testicles, his health history is good. A physical examination made recently, including the serology of the blood and spinal fluid and chemistry of the blood, was entirely negative. We should have mentioned that at the age of eight, the patient was struck on the head by a hockey stick and for a short time was unconscious.

He easily completed the eighth grade of public school at the age of 14 and began to work in a telephone exchange. Subsequently he operated an elevator and was a hotel and pullman car porter. He has not worked since August 1933.

His first marital venture at the age of 18 culminated in a divorce a year later. A second marriage at 20 still endures and has produced three children, a child who died at the age of three and two living and healthy daughters.

The patient used alcohol to some excess for several years but has been alcohol-free since June 1933. In this connection it is interesting to note that the first theme in his delusional essay was that of marital infidelity.

It appears from what the patient has told us, that in August 1933, he felt sick and went to the family doctor who gave him medicine. He realized shortly afterward that the doctor had given him poison and that he did this because he (the doctor) was in league with his wife. They were in a conspiracy to destroy his life, so that she might be protected from the consequences of her marital infidelities and be able to safely continue an immoral life. When asked for a little proof concerning these serious accusations, he replies with positive sounding words but somewhat lame logic, that he could detect the arsenic and sodium cyanide in the medicine by holding it up to the light and, furthermore, "voices" told him of the poison and of the infidelity of his wife and these voices said "terrible things" about him. He is constantly hearing the voices of his enemies calling him vile names.

There is an interesting thread of grandiosity woven into the delusional pattern. His real work in life is secret service and he has solved many important crimes committed here and in Europe. He can do this without leaving his chair since he possesses the power of mental telepathy, that enables him to know the instant when a crime has been committed and gives him at once the exact location of the criminal. We tell him frankly that we are skeptical about this remarkable power and obligingly he gives a demonstration. Rapidly he writes in pencil this message: "Go to 1418 G______ Avenue, a robbery has just been committed at the residence of Mrs. R. P. J______. You will find her in a closet on the first floor, bound and gagged and all of the silver missing. The robber is B. P. S______, tall, dark, heavy-set man, age 37 with blue eyes, and he is at present hiding behind the stairs in the basement of the building at 1612 A______ Street. He has a gun so be careful." This is the message the patient has just received word for word, through mental telepathy. Q.E.D. The government owes our patient 869 quadrillions of dollars for his secret service work.

The diagnosis in this case is paranoid dementia precox, perhaps influenced by alcohol.

The second patient, a physically ill-favored man, 50 years old, claims he is "more than a prophet." To give his name, X the second, the Saviour and the Third Person of the Trinity. He wears a little skullcap with the three paper gilt stars symbolic of his exalted position in Heaven. He has a decided overgrowth of the frontal bone due to the repeated irritation of striking his forehead against a stone floor until it was bleeding and bruised during the days of his expiation. He displays many drawings showing crude artistic ability. They are drawings of the visions he has seen and they substantiate his claim of divinity.

His family history is interesting. The father, a tailor, died of tuberculosis, the mother died of pneumonia at the age of 62. An older brother once tried to shoot the patient, stating that he had ruined his daughter "so she couldn't have any children." Two sisters died of tuberculosis, one aged 28, the other 32. A living sister was so cruelly treated by the mother, that a priest intervened and had her removed from the home. For seven years she was a patient in the neurologic wards of a hospital suffering from hysterical hemiplegia, hemianesthesia and aphasia. She has now a paranoid psychosis.

Into this murky background of family, the patient's personal history follows like the chapters of a morbid Russian novel. He was born in 1883. At the age of two he was placed in an orphanage. He was dull and incorrigible and tells us that he was cruelly beaten. He had enuresis that recurred nightly and continued until the age of 30. At the orphanage he says he learned many forms of sex perversion. Often he would cross his legs tightly, look at the woman in charge, sink himself in phantasy and produce an orgasm. He frequently visualized himself kissing female genitalia or performing cunnilingus. This phantasy always produced an orgasm. He was both an active and passive participant in acts of sodomy and fellatio. These facts of sex life are delineated in some detail, since they unquestionably influenced the nature of subsequent psychotic phenomena.

At the age of 14, he left the orphanage, was apprenticed to a baker, but ran away in a week. He then had many and various jobs but, finally, for 12 years worked steadily and satisfactorily as a radiator painter. He drank beer moderately and since 1920 has not taken alcohol at all.

In his sex life he became more and more addicted to perverted practices. He was then a confirmed window and keyhole peeper and a fetichist, frequently experiencing an orgasm by kissing women's underclothing and stockings. He then lived with a woman, his common-law wife, and with her was sexually perverted. She was alcoholic and epileptic and died in 1920 in a grand mal seizure. He felt there was something strange about her death and soon after began to evolve his delusional system. All the women in whom he was interested were named Mary, an interesting fact, since his delusional ideas constantly refer to the Virgin Mary, the source of all his power and divinity. Following the death of his common-law wife, there was a short-lived relationship with a man.

He was admitted to the hospital in 1927, following a disturbance in a Catholic Church, when during the services he presented the priest with a "bible" written by himself. He insisted that it contained the only true word. He demanded that all other religions be discarded and that he be recognized as the Saviour. For years he has occupied himself with his inspired writings and the reproduction of his visions in drawings.

From the story as related by the patient, he led a life of "sin," then repented and did penance including the infliction of severe pain upon himself. Then, after some years, he began to see visions of the "god-head." This was usually in the shape of a heart crowned with roses, but there were many variations, the "immaculate heart," a heart pierced by a sword, a heart with a finger pointing to the sacred wound, a heart-shaped face, the "face of God," etc. After several years these visions "came closer and closer," until finally his spirit was assumed into heaven (reborn "immaculate" of the Virgin), his body remaining on earth. In heaven he is the Saviour and the Third Person of the Trinity.

His speech, his gestures, his clothing, his writings and his drawings are all replete with symbolism. For instance, his middle name, Xavier, is really X-Saviour. He is not above making small and rather bad puns: "All I (pointing to the eye) know (points to nose), and the Soul (points to the sole of shoe)."

For the sake of completion, we add that in this patient all physical examinations and serologic studies have been negative. Diagnostically, Kraepelin would have labeled him paraphrenia.

REMARKS ON ABOVE CASE. In this psychosis symbolism plays an important role. Symbolism which means letting one thing represent something else, occupies a very prominent place not only in the life of psychotic patients and children, but it is constantly and universally utilized in the everyday life of adults. Not only in religious and patriotic ceremonies, in literature, art, drama and music, not only in our love life, but even in mundane, commercial

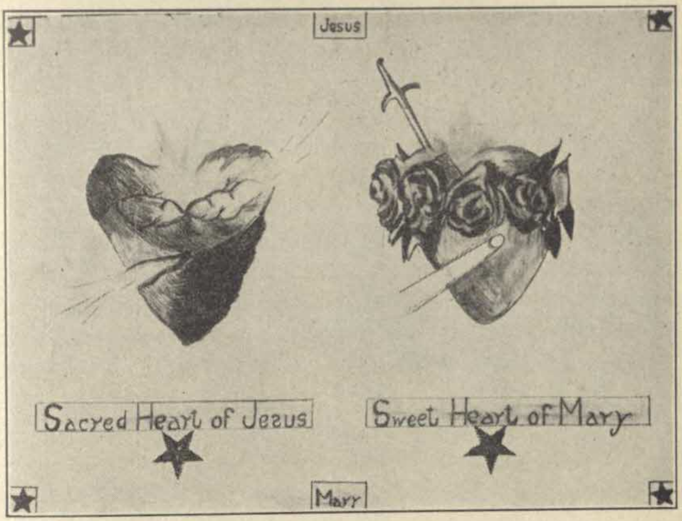

Fig. 26.

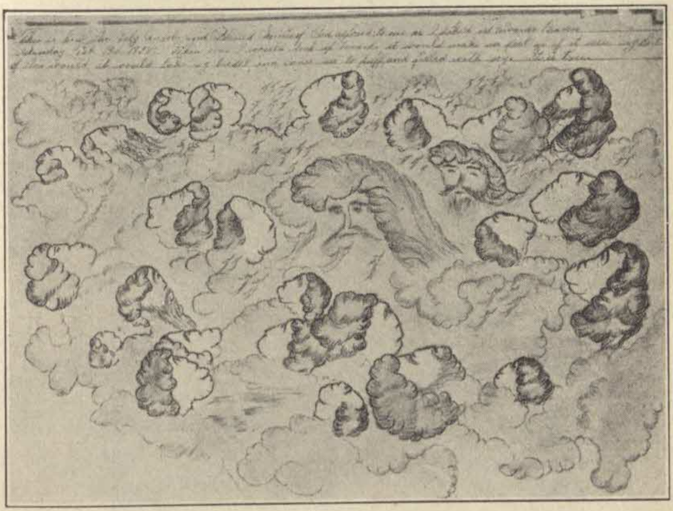

Fig. 27.

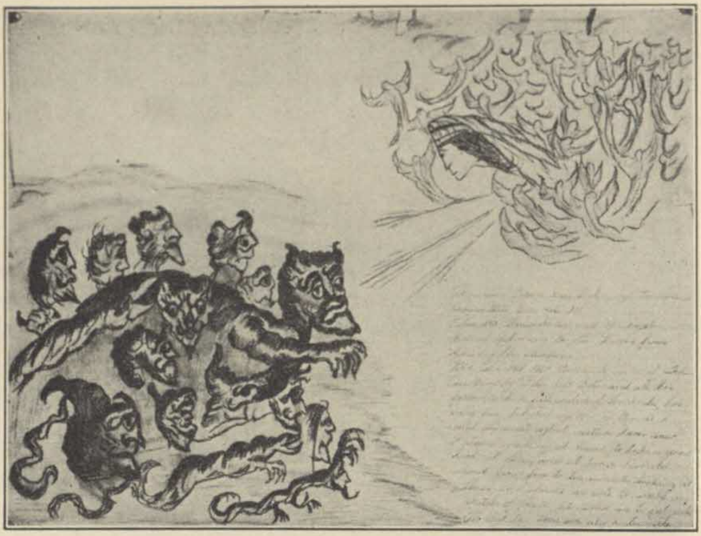

FIG. 28.

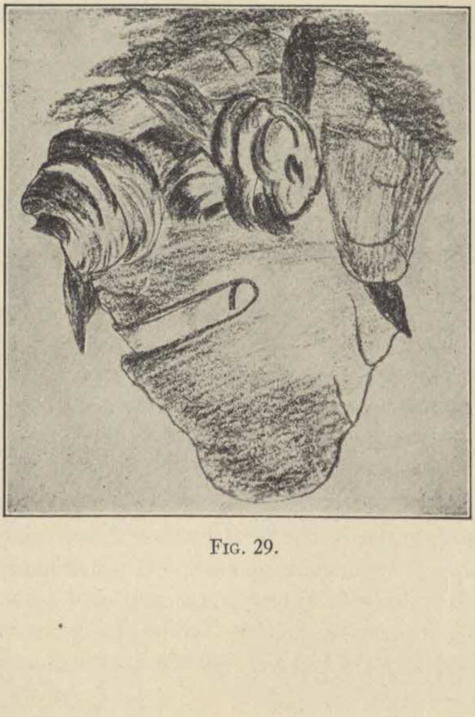

FIG. 29.

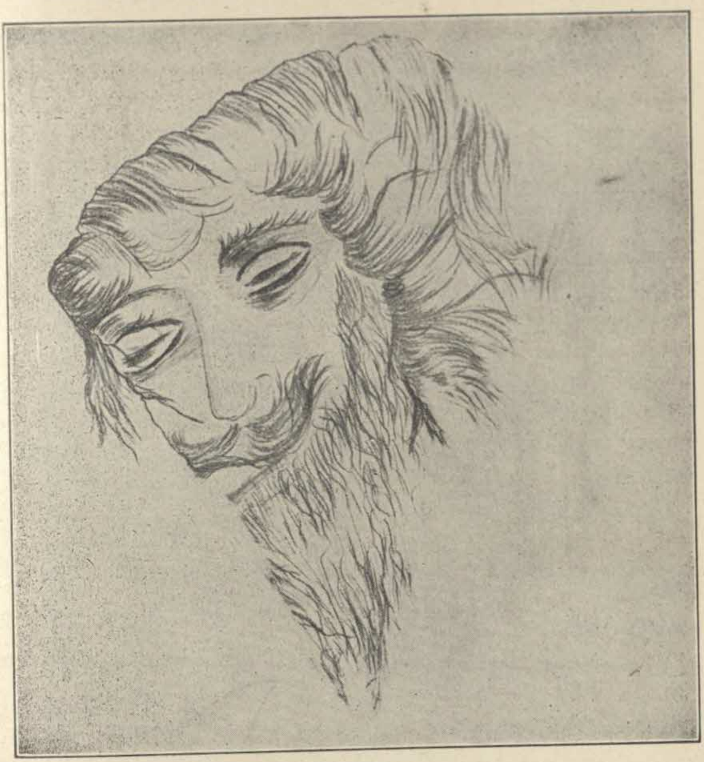

FIG. 30.

transactions is symbolism used. For instance, a bit of paper called a check symbolizes money. Symbolism simplifies social and business intercourse and has advanced the progress of civilization, since it makes for a unification and economy of thought. It is not necessary to recite the history of this nation's struggle for independence since the display of our flag symbolizes this and much more and it is so accepted.

Symbolism is the natural language of psychotic life. Here, too, it promotes an economy of thought. It is interesting to note how in the course of time a vast delusional structure finally comes to be represented by a single gesture or mannerism, like an uplifted thumb. Thus in our patient, a gilt star on his skullcap indicates in his phantasy life his high place in heaven and symbolizes the whole delusional structure.

The drawings Figs. 26 to 35 are not only richly symbolic but, illustrate very nicely one of the differences between logical and emotional thinking. Emotional thinking conditioned by emotional attitudes acquired in childhood, mental slants, trends, prejudices, intolerances, and, in general, determined by the driving force of inner "complexes" is the common variety of thinking. Emotional thinking or thinking by complexes is not necessarily harmful

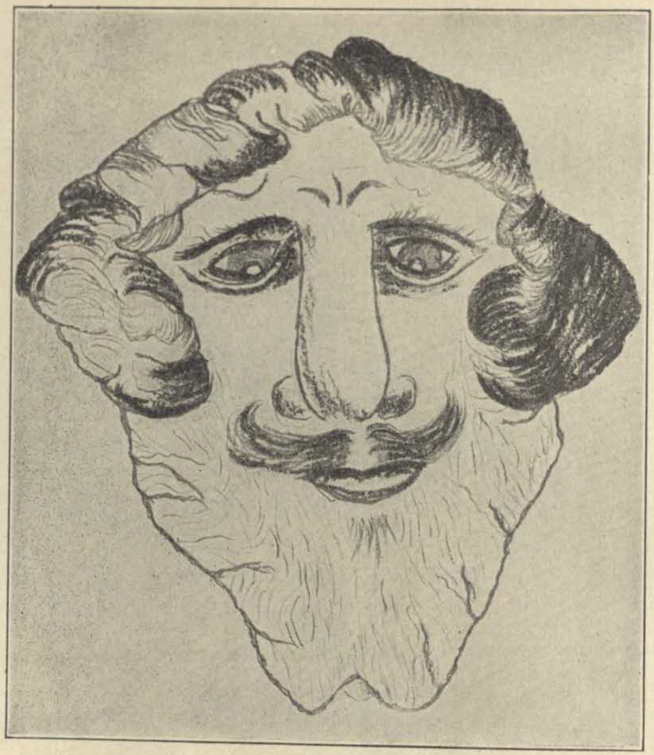

FIG. 31.

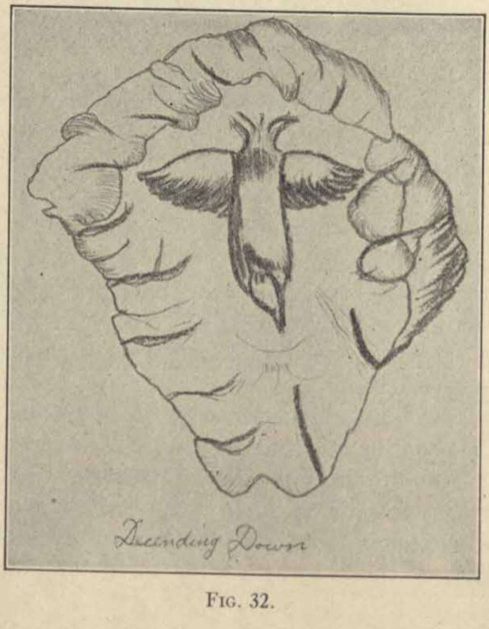

FIG. 32.

physically but may be productive of much that is helpful and constructive. If, however, the "complex" threatens to lead into thought and behavior that falls too far short of the measuring rod of the self ideal, or the judgment of the herd, so that it cannot be openly expressed in consciousness, then it must be expressed in camouflaged and devious fashion, since expression is demanded by the dominant force of the complex.

See how beautifully this is illustrated by the drawings of our patient. From the history it is obvious that he had an abnormal sex drive. This was repressed during his period of penitence. But murder will out! For years the complex was disguised in the drawings as the sacred heart, the "godhead," the face of God, etc., now finally, as you see from the accompanying samples of "visions," it comes out frankly in the shape of male and female genitalia and indeed, almost every portion of the body is expressed in terms of sexuality.

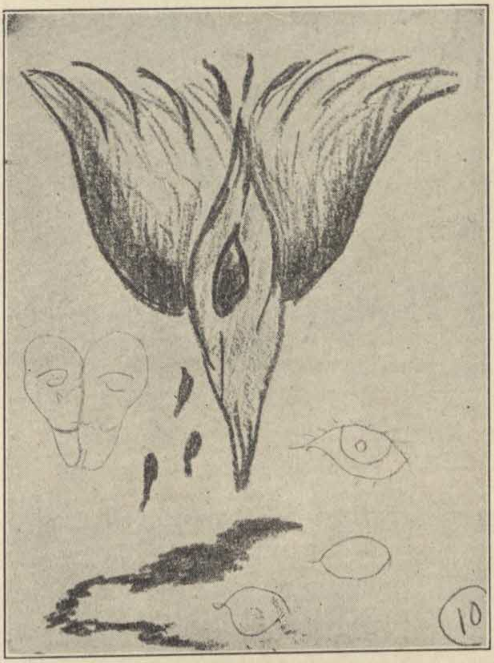

FIG. 33.

The third patient, a quiet, serious, almost intense man, 41 years old, was brought to the psychopathic pavilion at the instigation of a trust company in this city. It was said that he annoyed the officers of the company.

From the statement of the patient, it appeared that he was a brilliant student in school and high school. At 15 he began to work as an errand boy in a department store and through his industry aroused the interest of a wealthy business man, who helped him to secure a position in a trust company. He remained with the trust company for 15 years, was successively promoted and reached the post of assistant secretary. Thirteen years ago he married, but did not get on with his wife, because

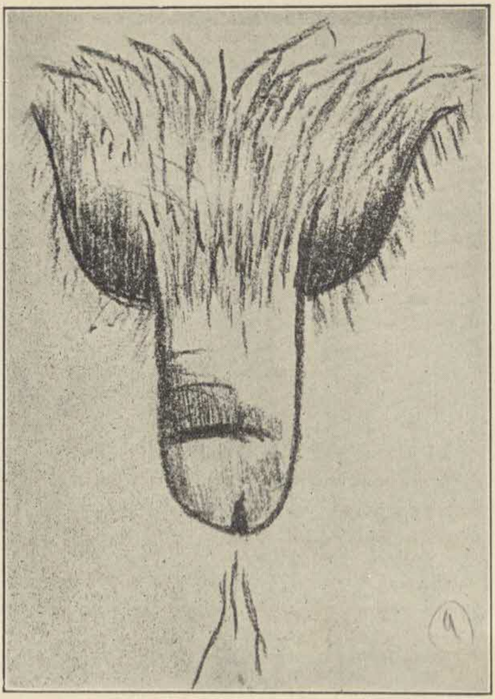
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FIG. 34.

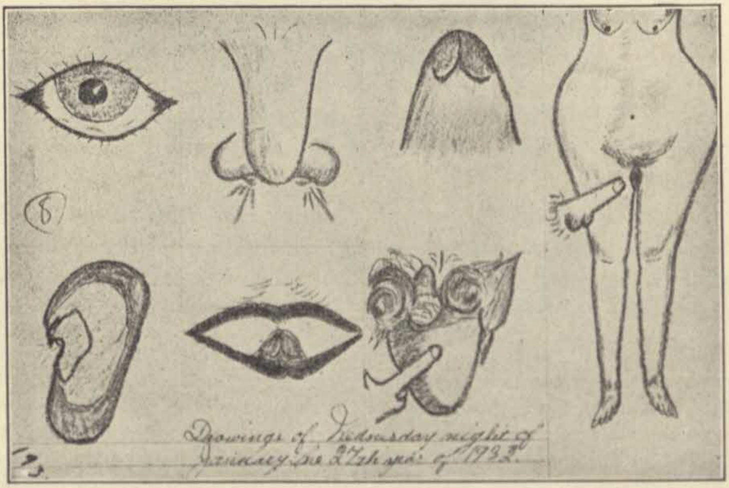
8
13
Drawings of Wednesday night of
January the 27th year of 1932.

FIG. 35.

she resented his interest in his mother. He was divorced in 1925, and soon after resigned from the trust company. As to his habits, he states that he is a heavy smoker but never uses alcohol. Up to this point the story is wholly factual.

He goes on to relate that the previously mentioned wealthy business man established a large trust fund with the trust company for his benefit. He tells briefly, but pointedly, of the machinations of the trust company against him and of the unfair methods that have been practiced in order to deprive him of his monetary rights. He meets objections to the validity of his contentions rather cleverly and points out, that one need only read the newspapers to realize that financiers are not necessarily men of integrity, likewise, in these days a bank is not at all anxious to lose control of a large fund. If pressed too closely, he smiles in a somewhat superior manner and says with impressive dignity: "After all, gentlemen, there is no good reason why I should discuss my private affairs publicly." When questioned about hallucinosis, he answers impatiently that people who hear "voices," receive "messages" and the like are assuredly insane. As he leaves the clinic he protests vehemently against his "unjust incarceration."

We have no knowledge of this patient's family history. The physical and the serologic examinations yielded negative results.

In the days of Kraepelinian nomenclature, this patient would have been diagnosed paranoia vera.

Clinical Discussion. We have presented three rungs on the paranoid ladder. Paranoid is only a word, but it is a word so commonly employed in psychiatry, that there should be some idea of its significance. It occurs with great frequency in practically every psychiatric entity and syndrome, organic, toxic and functional.

Now let us first dispose of the few things that these three patients have in common. The physical and laboratory examinations were consistently negative throughout and we may discard (with the possible exception of alcohol in the first patient) the operation of a toxic factor. In each instance, the consciousness and orientation and, in general, all those threads that connect us with personal, spatial and time relations were intact. All three patients have paranoid delusions, but here the similarity ends.

An important aspect of any psychotic reaction is the emotional tone. From the examinations and from the historical knowledge of these patients we regard the emotional reaction of the first patient as wholly inadequate, the second as partially adequate and the third as entirely adequate. By this division we are attempting to give some measure of the affective response to the content of thought and in these instances, the content of the delusional systems.

Neither in general behavior, attitude, or manner, did the first patient react in a way at all compatible with the content of his thought as evidenced by his speech. Remember, he believes his wife to be flagrantly unfaithful and conspiring with his enemies to murder him! Yet he is seemingly little if at all troubled, is quite casual and unconcerned and is willing enough to remain in a public mental hospital doing menial work cheerfully, even though, the government owes him 869 quadrillion dollars, and in spite of the fact that he is the world's most brilliant detective! We may safely predict that as time goes on, and, indeed, quite rapidly, his emotional response measured in terms of adequacy judged by ordinary standards will shrink more and more until it is almost nil.

The affective reaction in the second patient is somewhat more in keeping with his exalted beliefs. As the Saviour and Third Person of the Trinity he is egotistical and superior, but he accepts skeptical remarks concerning his ideas good-naturedly enough, has no dignity of bearing or manner, frequently descends to the level of coarse jokes and puns and readily enough accepts the shelter and food of a hospital. (He remains here voluntarily.) Scarcely does he fulfill the expectation of a divine personage.

Contrast the emotional response of these two patients with that of the third. He believes he is being defrauded of a huge sum of money and he acts the part perfectly. He discusses the matter reluctantly, is extremely dignified, intense, impatient and resentful of skeptical questioning; there is no trace of lightness or humor in his statements and he feels outraged at his incarceration and demands his release at once. It is a tribute not only to the thoroughness of his logic but also to the depth of his emotional reaction, that one of the students inquired seriously as to what right we had to deprive this man of his liberty.

Now let us examine the logical structure of the three systems of delusion held by these patients. The first patient may scarcely be said to present a system. See how weakly he argues the validity of his delusional beliefs. He has not the slightest proof that his wife has been unfaithful; he knew the doctor gave him poison because he could identify arsenic and cyanide by holding the solution up to the light; he has many enemies because he hears their "voices" plotting against him; he is the greatest detective in the world and solves crimes committed thousands of miles away by mental telepathy, etc. Of such flimsy materials is the delusional structure made.

The second patient is somewhat more logical in the systematization of his false ideas, but there are many discrepancies. In effect, his divine pretentions are based on visions that he has reproduced in drawings. Without additional proof, he expects us to believe that he is the Saviour and the Third Person of the Trinity.

The third patient is extremely logical and the various pieces of his delusional system dovetail neatly into each other. He meets objections cleverly and does not utilize the artificial support of hallucinosis to bolster up his claims. It might almost be said, that if one could hypothetically accept the conclusion of this patient, that a trust company owes him millions of dollars, then we would be quite convinced by the logic and soundness of the premises.

The question of hallucinosis may be disposed of very quickly. The first patient has constant and gross hallucinosis; the second derives some of his drawings from visual hallucinosis; the third never hallucinates and he would regard those who hear "voices" and see "visions" as insane.

The length of time necessary to complete the evolution and elaboration of the delusional system is a measure of the depth and completeness of the paranoia. In the first patient, less than six months were required for the delusional ideation to reach its full flowering; in the paraphrenic nothing significant was added to the delusional conception after the first three years of the psychosis; the paranoiac came very gradually to the fruition of his false idea, indeed, it can scarcely be said after 14 years to have reached completion, since the patient slowly continues to elaborate its detail.

In regard to the personality it is safe to predict that in the first patient the disintegration has already begun and soon he will be psychically dilapidated; the second patient has held together only moderately well and after 14 years the third is quite intact in his personality markings, and unquestionably will remain so.

In the discussion we have more or less delineated the clinical boundaries of true paranoia. It may be thought of as the slow and furtive development of a lasting and immovable system of persecutory delusions. The premises of the delusion are logically reasoned and closely knit and there is an harmonious accord between thought content and affective response. There are no hallucinations; the personality is preserved intact and, of course, deterioration does not occur.

Descending only a few steps on the intelligence-emotional scale we come upon so-called "paraphrenia," also a late-developing psychosis (as is the tendency in the paranoid reaction types) with its rich delusional content, often systematic, expansive and phantastic, comparatively slow in reaching its full growth, rather logically sustained in its argument, with a fairly satisfactory emotional response, absence of at least obvious and direct hallucinosis, but nevertheless, usually resulting in a gradual crumbling of the personality and a mild deterioration.

It is scarcely justifiable to think of paraphrenia as a psychiatric entity. It is one of the redundancies of Kraepelin's passion for classification and is allied to the original "Delire chronique a evolution systematique" of Magnan. Kraepelin described four groups of paraphrenia, i.e. systematica, expansive, confabulatory and phantastic. The first probably belongs to paranoia and the remaining three to dementia precox.

A much longer descent brings us into the territory of the late-maturing paranoid schizophrenic processes. Here the delusional system reaches its summit much more rapidly and only for a very short time maintains its intelligence-affective front, and only with much hallucinatory assistance. Then the disharmony begins and proceeds apace, the personality succumbs and the particular schizophrenic deterioration sets in.

In addition there are many paranoid types that scarcely come to open psychotic expression and a host of incomplete paranoid demonstrations to be observed in practically any psychosis.

A cross section from the writings of many authors emphasizes not only the homosexual and narcissistic influences but inferiority from any source in reaction with a vulnerable personality. Denied the palms of victory for success in life, rationalization is utilized to deal with the repressed tendencies, feelings of guilt, frustrated hopes, insults to pride, etc. According to Noyes, " the more readily and passively the individual gives up the struggle for self-esteem and for recognition the more nearly the reaction approaches schizophrenia.

" . . . The more largely the repressed material becomes ideational and verbal and the less the patient's relations with reality are disturbed, the more nearly the psychosis approaches traditional paranoia, and conversely, the larger the extent to which repressed material comes through in the form of hallucinations and the more primitive the form of adjustment, the more nearly does it approach schizophrenia."

Prognosis. Since the paranoid reaction types represent rigidities and pathologic crystallizations of personality one can scarcely expect favorable outcomes. There are abortive forms and "formes frustes" as reported by Gierlich and Friedman in which the patients present the picture of paranoia with "systematized, persecutory delusions, with great irascibility, with happy or sad affective states which last for several weeks, without sensory impairment, resulting in rapid recovery with perfect insight but, with, too, a tendency to periodicity.

Treatment. It is doubtful if the mental hospital can offer much therapeutic help in the well-defined paranoid states. On the other hand, such important considerations as antisocial behavior with a range of petty annoyances to others to homicidal attempts and endless litigation frequently make hospitalization imperative. Certification of such patients may be productive of many legal entanglements and it may be advisable to secure a commitment by judicial order.

Paranoid patients may respond in considerable degrees to individual handling by a skilled psychiatrist. Armed with a thorough knowledge of the patient's life history (as recommended by Meyer), explanation and persuasion may sometimes bear good fruit if planted carefully by the psychiatrist in the previously prepared soil of confidence and mutual liking.

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CHAPTER 10

TRAUMATIC REACTIONS

Changes in human behavior following head trauma are becoming more frequent in this mechanized age. Invention of the airplane, automobile, and modern mechanized warfare have greatly increased the incidence of traumatic injuries. The expanding industrialization of America has also brought to our clinics many problems incident to industrial accidents which involve injuries to the head. Every physician, whether general practitioner, specialist, or research worker, will be at times called upon to evaluate the extent of head injuries; usually the patients are involved in some type of legal difficulty over compensation. Although there has been a considerable advance in the technical procedure of examining these patients and in determining the nature and extent of the injuries to the nervous system, there has been little alteration or advance in our fundamental attitude toward the person with head injury. The general attitude of the medical profession, the public and the courts toward the injured person has remained essentially unchanged through the past several decades. Traumatic cases are usually divided into three large groups and they have been rather clearly defined by Smith and Solomon. They divide their cases into first a large group where the stimulus is largely psychic or the "nerve shock" lesions of the central nervous system. This trauma causes the person to develop symptoms which are largely of a neurotic nature and "bespeak a neurotic personality." Second, there is a small group of patients who are led by treatment to think that they have been more severely and permanently injured than they actually have been and, three, an intermediate group. These authors point out that 90 per cent of the defendants in suits involving so-called "traumatic personality" cases or traumatic neuroses are wealthy corporations. They state, "The purposeful mechanism of neurosis may operate on a subconscious level but the hope of being compensated thrives best when a stout corporation can be looked to as the party defendant." These authors in general feel that the courts are too lenient with their awarding of compensation. Smith and Cobb have also written at some length on the traumatic nervous states. They also feel that in the absence of a definitely demonstrable injury to the nervous system, the development of symptoms in the case suggests predisposition in this particular person and the symptoms would not have been developed in a person of average constitution. These two publications indicate concisely the present attitude and practice in the courts toward the person who has been injured, that is, a person is considered to be a truly traumatic case if the injury that he sustains and the symptoms he shows are those that might be expected in a person of average constitution, no provision being made for the individual's own idiosyncrasies or own vulnerability to the development of symptoms subsequent to the trauma. On the other hand, those persons who have been injured severely enough to produce organic changes in the central nervous system that are demonstrable are considered to be the proper object of compensation. Methods of determining the degree and extent of this injury will be discussed in a later section.

Idealistically there are many objections to the present attitude of the courts and the bulk of the medical profession to these problems. Many studies would indicate that often persons receiving organic injuries to the nervous system or other body segments are so-called "accident habit" or "accident prone" persons and the injury, of whatever type, is frequently based on some neurotic predisposition or some inadequacy within the person. It is difficult for the authors to see why a person who is awkward and who as a result of his awkwardness or impulsive act or latent suicidal trend receives a severe head injury should be compensated anymore than the person who because of somewhat similar trends receives no serious injury but claims compensation and readjustment from the company nonetheless. From a practical point of view the difference in approach is of course obvious as anyone could then become compensable, but from an idealistic point of view both individuals have been injured, the sphere of injury being different, and both have been injured at least partially due to their own shortcomings, either due to awkwardness, being in the wrong place at the wrong time, or through some more deep neurotic tendency. Compensation in either type of case tends to aggravate the symptoms and tends to increase the patient's dependency reaction. Perhaps when our Utopian period begins all persons irrespective of whether they were injured in an industrial accident or ill from a civilian disease will be given minimum care by the State. In such an instance no cash bonus would be received and the patient's wants would be cared for by the State but again on a minimum level. The patient would be provided with treatment by the State but he would receive no large cash bonus and no sharp distinction would be drawn between persons injured in government service, in industrial accidents or injured or ill due to his own activities while working for himself or on his own time. This would obviate the necessity for hearings to determine responsibility and so forth. It is realized that the above statement contains many far-reaching political and economic conclusions and as mentioned in the first sentence of this paragraph it is probably idealistic and not practical of achievement in this day and time.

Psychopathology: PATHOGENESIS OF CEREBRAL POSTTRAUMATIC STATES. There is much work being done on the nature of the changes in the brain in cerebral concussion and the nature of posttraumatic neurosis. Smith and Cobb have written extensively on the so-called nervous changes following head trauma and discuss fully the concept of nervous shock. They find that most cases of nervous shock are not related to the injury per se but are merely the effects of the injury on a person of previous inadequate or vulnerable constitution. They stress the importance of further studies of the effect emotions may have on structure and structure may have on emotions or the so-called psychosomatic approach to these problems. Denny-Brown and a series of co-workers have reported rather extensively on work in experimental cerebral concussion. They have found that in certain cases the injury becomes more severe if the head moves with the impact of the injury. They have studied the effects of concussion and other mild cerebral injuries rather extensively. For example, the rise of intracranial pressure is not an essential feature of concussion, at least, in so-called acceleration concussion. They find that the symptoms of acceleration concussion are due to failure in blood pressure. It may arise from failure of the vasomotor center during the paralytic phase of severe injuries. The failure of recovery arises from the effect on the vasomotor mechanism induced during primary shock. Death may occur as a delayed effect after the stage of recovery from paralysis. The vasomotor paralysis of concussion is immediate whether it is associated with experimentally increased blood flow through the brain stem or not. There is no evidence of vascular spasm of the brain during or resulting from acceleration concussion. Contusion in the cerebral hemispheres has no effect on the bulbar centers unless a great increase of intracranial pressure is developed as a result of hemorrhages into the bruised area. This effect is delayed in onset and reaches a maximum in from one to four minutes after the injury. Lindquist and LeRoy have also made studies on the pathogenesis of cerebral concussions. In experimental animals they have found that immediately after concussion there is a decrease of 17 per cent in cerebral blood flow and of 24 per cent in cerebral oxygen consumption. In 24 hours there is a decrease of 19 per cent in cerebral blood flow and 21 per cent in cerebral oxygen consumption. They have found that 50 per cent sucrose or glucose increases the oxygen use from 45 to 100 per cent in the case of sucrose and from 90 to 130 per cent in the case of glucose. They found that cisternal drainage also improves the blood flow and oxygen utilization in the acute phases. Their work would indicate that the symptoms from posttraumatic states are due to prolonged anoxia and decrease in the cortical metabolism. Further studies would be indicated along the same line in chronic posttraumatic states and the authors are probably carrying this on although we have not as yet noted any report in the literature. Traumatic states in the acute phases almost all show electroencephalographic abnormalities. This has usually been assumed to be due to increased intracranial pressure but Stewart, in 1941, showed that it was not the cerebral edema but internal hydrocephalus that produced the slow waves. This work has neither been confirmed nor refuted, so far as we know, and it was carefully done and may be assumed to be accurate. There is one observation in this paper, however, that the authors cannot accept. Stewart suggested that slow waves are the resting rhythm of the anterior portion of the brain.

It is not clear from his work upon what facts he bases this statement and it is certainly not confirmed by the work of other authors in this field.

Research on the pathogenesis of head trauma is now being financed by the Office of Scientific Research and Development. So far, their studies reveal little in the way of true causation of these states nor have they offered very much additional information as to the best method of detecting these conditions. Apparently, according to verbal reports emanating from this work (no publications have been made at this writing) the best method of determining the nature and extent of injury still remains the history which determines the duration of the patient's injury, that is, the duration of the period of unconsciousness following the injury. The nature and severity of the posttraumatic changes seem to be more nearly in proportion to this than to any other one item in the examination of these cases. Some workers in Boston have found that patients in whom compensation is involved have a much higher incidence of posttraumatic headaches and in general take a much longer time to recover from head trauma than those patients in whom no possibility of compensation is involved. This study was very carefully done and confirms the idea of many authors that most so-called posttraumatic states are actually functional conditions superimposed on severe or minor organic damage and motivated apparently by the desire for personal gain. Much further evaluation of this particular portion of the case is needed.

PATHOGENESIS OF POSTTRAUMATIC NEUROSIS. This was alluded to somewhat briefly in one of the earlier sections. In general, it is felt that individuals may adjust to life situations either functional or organic in terms of their own basic potentialities as determined by their constitution, their education, previous experience and degree of integration, or ego strength. Many individuals meeting severe situations in the environment of a more purely psychologic sort find themselves unable to adjust. Other persons meeting equally severe situations, but of an organic sort, also find themselves unable to adjust. Thus, one comes back to the old I plus S formulation. A given individual confronted with a situation in the environment will adjust or not, depending on his total potentialities in terms of his constitution and heredity and previous experience and degree of integration. Meeting a certain situation in the environment, which may be psychologic or may be more in terms of organic trauma or disease, he will react to this situation with adjustment or maladjustment depending on whether or not his potentialities are sufficient to handle the environmental situation. Thus, a person of great potentiality may handle situations which would be overwhelming to a brother made of lesser stuff. Posttraumatic neuroses are only special instances of this general psychopathologic equation. An individual of high potentialities sustaining some minor head injury may suffer the usual symptoms from it but adjust to it and carry on his work without any handicap or without taking particular notice of his symptoms, his reserve being sufficiently great to compensate for any shortcomings that may have been brought about by the trauma. A person of lesser endowment meeting the same situation may fail to adjust to it because he does not have enough reserve to compensate for the minor and usually temporary changes in function incident to the trauma itself. This applies, of course, in great measure to the person who has had an organic injury from his trauma. If he is originally a person of superior potentiality he compensates rather readily for organic injury unless it is very extensive, while the person of lesser potentiality cannot adjust to loss of function in an organic sense as well as his better endowed brother. If to the situation one adds the factor of compensation which makes these difficult situations gainful there is a tendency to prolong the symptoms.

The symptoms of a posttraumatic neurosis vary considerably. The chief symptoms, however, are recurrence and persistence of headache, backaches, pains in the neck and other body segments. These are usually accompanied by more or less transitory attacks of dizziness. These attacks of dizziness may vary from a few seconds to many weeks in duration, depending upon the patient. There also is frequently complaint of great fatigability, particularly associated with any type of constructive effort such as work, running to catch a bus or anything that is not pleasure producing. Many of these patients who complain of great fatigue on reaching down to pick up something, or upon running up steps, report that they can have sexual intercourse without any difficulty, although in some instances at least this must require some effort on their part. We have found this to be a rather valuable differential point but the two factors must be determined at different levels of history taking. Patients will also complain of various other pains, and symptoms such as aches, indigestion, belching, and gas on their stomach, blurring of vision, impotence, roaring in their ears and many other symptoms, many of which may be suggested by the physician during the examination if the questioning is not done skillfully. We have found it best to not ask the patient leading questions but merely request him to describe his symptoms and give him ample opportunity to do so. Perhaps the outstanding feature of all these symptoms in the posttraumatic neurosis is the fact that they all become greatly exaggerated and aggravated when a patient attempts to do any type of work and yet they are intermittent and do not bother the patient when he is pursuing his own desires and amusements.

Symptomatology. Discussants in this subject divide the cases into three large groups: (1) Cases in which the symptoms are predominantly organic and due to injury to the brain, (2) cases that are mixed with some organic damage to the brain but the organic lesion is aggravated by a neurotic or other personality determined factors, and (3) symptoms that are predominantly functional. The functional group may be subdivided into (a) posttraumatic neurosis and (b) so-called malingerers.

1. Examples of Direct Injury. In this category comes patients who have had a severe concussion, contusion or laceration of the brain with symptoms that are predominantly organic in origin. In practically all of these

cases there will be a history of prolonged unconsciousness with amnesia for the entire period. The symptoms are colored heavily by the patient's previous personality but they all contain the organic configuration of symptoms which are described in the chapter on the organic reactions. A classic example of this particular type of reaction is included in the organic section and it will not be repeated here.

2. POSTTRAUMATIC PERSONALITY CHANGE. This second group is a so-called mixed type in which the patient has received some definite brain injury, usually with a history of a period of unconsciousness of varying length but of sufficient duration to make one certain that there has been some injury to the brain. In these cases there is also demonstrable evidence of some organic neurologic pathology. In addition to the organic symptoms, there are signs of personality change often manifest by irritability, weakness, headache and insomnia. Many of these patients as a result of repeated examinations and trips to various consultants' offices have developed a marked elaboration of their symptoms and a person who may be having posttraumatic convulsions or perhaps occasional posttraumatic headaches will become a chronic invalid who is weak, shows a marked effort syndrome and who finds himself completely unable to carry on with ordinary activity even though there is nothing in the residuals of his injury to account for this tremendous incapacity. A case of this particular type is as follows:

A patient was referred for a neuropsychiatric evaluation claiming an injury. The physicians managing the case had submitted different opinions. The patient had, in the meantime, retained a lawyer and was contemplating bringing suit against the company for a rather fantastic sum of money. The history was as follows: The patient was employed in a small hospital in one of the metropolitan areas of Texas. In the course of her duties she had been attacked by an alcoholic patient who had struck her with a bottle. Attempting to avoid this blow the patient slipped on a polished floor and struck her head. She states that she was unconscious for only a few moments but when she came to she noticed that there was a little blood on the floor and that her glasses were broken. Apparently, she was not fully conscious at this time because it was not until the relief nurse came on and pointed out to her that her uniform was all bloody and blood was all over the floor that she realized that she had received a rather severe laceration of the forehead. The patient went home and states that after resting a while she awakened and found that she had a very severe headache. At this time she contacted her employer who referred her to a doctor who worked in that hospital. This doctor after a very superficial examination drew the wound together with adhesive tape and advised cold compresses. The patient carried out this treatment with very little relief and as a result the wound healed with considerable disfiguring scar formation. She also noticed numbness over this area of her head and between the numbness and the disfigurement, the patient's attention became focused on this part of her anatomy. She then began to develop severe headaches and dizzy spells. The patient consulted a physician on her own initiative who informed her that a small nerve running to that part of the scalp had been involved either in the cut or in the scar that subsequently formed. He also gave her some deep x-ray therapy to reduce the extent of the scar formation. The patient was then referred to another physician who advised an operation to relieve the puckering and to relieve the pressure on the small nerve that was thought to be involved in the scar. Throughout all of this time the patient was unable to get any very satisfactory response from her employer or from the insurance company because the first physician on examining her had assured her that it did not amount to anything and was not serious. The insurance company, going on this basis, apparently assumed that the patient was malingering. The employer apparently took a similar attitude and the patient was not allowed to return to work. As a result of this she became very hostile and resentful because she was losing time from her work, her doctor bills were mounting, and she was obtaining no satisfaction and little relief. In examining the patient, she seemed to be a very reasonable person. She was coöperative to all of the examinations, which revealed she had received a definite injury to the supraorbital nerve. She had a scar approximately 5 cm. in length over her forehead which presented some aspects of disfiguration and a careful check revealed that there had been some damage to the underlying brain tissue, as manifest by the electroencephalogram and clinical studies. Our recommendations, therefore, outlined the difficulty and advised a lump sum cash settlement with the patient to compensate for the expense of her care and the time lost from work. The patient agreed to accept this.

The above case is presented because it is felt that if this patient had been properly handled at the onset with proper suturing of the wound, and proper care for her concussion, and if she had been allowed to return to work without the difficulties between her and her employer, the total sum of the settlement would have been much less, the patient's attitude toward the physician, insurance company and her employers would have been much better, and a great deal of difficulty could have been avoided by all parties. The patient's desire to get something or "make them pay" was because of her feeling that she was mishandled and neglected, an opinion which we shared, although the insurance company was not altogether enthusiastic about the report to this effect.

A similar case was a colored man who had received a head injury while at work. It is interesting that this man had had a series of injuries and the present one was obviously due to his own negligence, or, perhaps, due to the negligence of his foreman who allowed him to attach some equipment to a building in an unsafe manner, with the result that the equipment came undone and hit him on the head. Patient received a concussion followed by a period of confusion and was left with irritability, headaches, and weakness on exertion. At the end of the usual 60 to 90 day period, the patient was anxious to return to work, and since he had done heavy work it was felt that he should not continue to do this. His former employer offered him light work but the pay was accordingly light. The patient bitterly resented this, feeling that he should have been allowed to work during his convalescence and that he should have been paid a more equitable salary. The employer informed him that if he was going to get heavy pay he would have to do heavy work. The patient, accordingly, did not go back. He spent another 90 days drawing compensation from the insurance company because he was unable to return to his original job. At the end of the second 90-day period, the patient was extremely resentful when told that at this time he was completely well and could do any type of work, expressing great doubt as to his ability to do so. We do not believe that this man will ever entirely recover from the sequela of his accident. The headaches that he had have carried over from an organic phase into a type of behavior reaction as an expression of his resentment toward the employer and toward the insurance company. It is believed that a more tolerant attitude toward the patient when he first returned to work would have saved at least 90 days of compensation and perhaps many years of resentment and symptoms.

3. PREDOMINANTLY FUNCTIONAL SYMPTOMS. The third group is one in which the symptoms are predominantly functional. In these cases there may have been some trivial head injury of an organic nature or no organic injury at all. The injury, if any, clears up and the patient's residual symptoms are completely functional.

POSTTRAUMATIC NEUROSIS. In these patients the neurotic symptoms follow the general pattern of the ordinary neurosis, most of the cases showing evidence of anxiety psychoneurosis although in some instances there are full-blown hysterical reactions. Other than the history of trauma and the fact that a large part of the gain of hysteria is to be found in the desire for cash compensation and the wish to hit back at the offending company, these cases show little to distinguish them from other types of neurotic reaction. The statement made by some authors that these patients respond miraculously to receiving compensation has not been true in our experience and one suspects that such cases belong in a subgroup commonly called malingering. The following case is an example of a posttraumatic psychoneurosis:

This patient was referred to the clinic by his insurance company and also by his private physician whom he had consulted, both suggesting the name of the particular clinic in which he was examined.

According to the patient, he was very "nervous" and had convulsions. According to the informant, patient was very nervous and had been a chronic invalid since an injury which occurred in June 1944, which was approximately two years before his examination by the author. In June 1944, the patient is said to have suffered an electric shock from a 12,000-volt current while working for a large utilities company. According to the patient, the current entered one hand and went out the other, leaving both burned to a slight extent. He states he was knocked down, struck his head, and was unconscious. However, he was able to return to work in a few days as a lineman, but immediately after the accident he began to experience constant poorly localized dull aching pain in the back of his neck and head. He was extremely tense and irritable and had much difficulty in sleeping at night, and a definite decrease in his appetite. These complaints had been much worse when some situational incident occurred which upset or irritated him. His episodes of tenseness lasted for a few days to a week and then he seemed better for a few days to a week or so.

It was not until about three months after the initial accident that his wife became aware that anything was wrong. At that time he returned home from work during a period when she was ill in bed. On this particular day he came to her room, sat on her bed, and spontaneously began to cry. When asked why he cried he merely stated that he was somewhat upset because none of the family or friends had come to see his wife during her illness. A few days later (early November 1944) while he was on the job he complained of marked dizziness right after he had climbed a pole. He immediately descended, complained bitterly of his head swimming, and is said to have lost consciousness and to have remained in that state for two days. During his periods of supposed unconsciousness he had almost continuous writhing and jerking movements of all extremities, and at times required restraint. At the end of one week he was discharged from the hospital and had no further episodes of syncope until March 1945. In this interval he was able to work. He seemed to get along fairly well except for the previously discussed episodes of restlessness and irritability which lasted from a few days to a week. Between these periods he seemed much better but "never got back to his former self." At this time, he was receiving liver and iron shots from a local physician in order to "build him up." In March 1945, he had a similar apparent syncope and is said to have been unconscious for 12 hours and hospitalized for one week. He did not return to work for one month and when he did go back could not continue to climb poles. He seemed slightly improved to the informant and his periodic spells of tension and restlessness were somewhat less. His headaches at times seemed much better also.

In the latter part of August 1945, he again began to climb poles and in less than a week the informant noticed that he was much more tense, irritable, and that his insomnia and loss of appetite became more severe. On October 11, 1945, while attempting to raise a line, the patient was pulling on a rope attached to a block and tackle. The pulley broke and the patient fell backward and struck his head on the ground. The informant states he was again rendered unconscious for a period of about 24 hours but was hospitalized for only six hours and then sent home. He again experienced writhing and jerking movements of all extremities during his "coma." After a week's time he was able to be up and about the house but his headaches were much worse and present constantly. The insomnia again became severe, his tenseness and restlessness more marked, and at times he seemed unable to sit still at all. Since this episode he has been unable to work and the condition has run a fluctuating course. His tension episodes, at times, seemed to suddenly and spontaneously become much more marked, last a few days, and then abate. All three of the episodes of unconsciousness have been characterized by a drawing, twisting, jerking movement of all extremities requiring manual restraint at times. Rubbing and massage of the extremities seemed to relax the patient and what the informant states were involuntary movements would fluctuate in severity for several hours and then gradually disappear. During the time these movements were present the patient did not seem to be rational and did not recognize people or talk coherently. When the movement disappeared finally, he would seem coherent and alert. During the period when the patient was especially tense, it had been noticed that he went to the bathroom to pass his urine frequently, as much as six or eight times a night, and that he smoked a great deal more. He continued a rather fluctuating course, and on December 1, 1945, he was told that he should go back to work, but when he went to the company he learned that all that was available was a job as night watchman at $.75 an hour, whereas formerly he had made $1.25 an hour. He left the office and met his wife at their car a few minutes later. When she saw him he seemed quite tense, his hands were shaking, and she states that he seemed to be in a "nervous jerk." They went to the office of a chiropractor who had been treating the patient for some months for a supposed "dislocation of the neck and edema, around the base of the brain." When his wife went to the chiropractor's office she found her husband in tears. The patient then decided he would walk a little and was to meet his wife at the company office about 30 minutes later. When she got there, the patient is said to have been unconscious and was "jerking all over." These jerking movements continued and on the way home in an ambulance he required forceful restraint because he was "twisting and squirming so." He remained apparently unconscious for about 12 hours and was "squirming most of the time." Since that episode he had periodic recurrent spells of tension, restlessness, insomnia, and anorexia. The informant states that there have been no observed memory disturbances in the patient but that "he seemed slower in his thinking than usual." No disturbance of vision or sensation had been observed but at times he staggered when he walked, complained that the room seemed to whirl around him, but he had never fallen hard enough to injure himself nor did he seem to fall in any particular direction constantly. There had been no diminution in sexual desire or ability. During none of the periods of unconsciousness and jerking movements had the patient been incontinent or bitten his tongue.

The information received from the patient's fellow-workmen which was supplied by the insurance company revealed that none of these injuries were quite as dramatic or severe as the patient had suggested in his history. Apparently, he did fall but was not severely injured, and apparently the burns he sustained were very superficial ones. The episode occurring on the pole, according to the eyewitness description, was merely a slipping but catching himself on the safety belt of the man working immediately below him. Patient had been unable to work at his occupation as a lineman since the last injury and he had some difficulty with the insurance company over compensation. He had been getting about $20.00 per week while his earnings prior to injury were about $250.00 per month. He stated that at one time he offered to settle with the insurance company for $6,000.00 but they offered him only $100.00. This was unsatisfactory and he continued on compensation.

Our detailed examination of the patient revealed no evidence of anything in the way of organic neurologic disturbance. He was physically quite sound. The neurologic status was as follows: Cranial nerves—intact. Sensory status—there is a moderate diminution of pain perception in both arms below the level of the elbow which is glove-like in distribution. A similar defect is found in both legs below the level of the knees. Position sense is intact and touch perception is normal. There is an area on the forehead extending from the eyebrows posteriorly to the vertex and laterally to the ears and malar eminence in which the patient is completely unable to perceive vibratory stimuli. Vibration is normally perceived in the area of the occiput, the mandible, and the maxillary area as well as on the extremities. Motor system—there is no weakness in any muscle group of any extremity. There is no atrophy nor abnormality of tone and the finger-nose, and knee-heel test are performed without difficulty. No tremor is noted unless the patient is in the upright position and skilled movements are well done. When standing there is a gross, rhythmical tremor of both hands which consists of a rapid slight, alternate pronation and supination of each hand. Deep reflexes—*biceps*, right plus one, left plus one; *triceps*, right plus one, left plus one; *radial*, right plus one, left plus one; *knee jerks*, right plus two, left plus two; *ankle jerks*, right plus one (reinforced), left plus one (reinforced).

The corneal and abdominal reflexes are bilaterally present. Hoffman, Babinski, Chaddock, Oppenheim are bilaterally negative. Kernig and Brudzinski signs are negative. Gait and Romberg—the Romberg test elicits a marked swaying movement principally from the waist up, but at no time did the patient fall. The gait is somewhat wide based and shuffling and the hands are held rather stiffly at the side, and at this time the previously discussed tremor of the upper extremities was marked.

Preliminary Examination and Subsequent Interviews. Patient was observed walking down the hall when he did not know he was being examined and his gait was entirely normal. During the neurologic examination the gait was extremely ataxic. There also was a marked shaking tremor of the left hand which was obviously voluntary. He was able to hold his hand steadily extended in front of him with his eyes closed and he performed coördinated movements with his hand, but on the finger to nose test there was a rather marked tremor simulating an intention tremor. There was no evidence of any muscle atrophy. There is an old scar on the left foot with some reduction in motility of the toes of the left foot. Neuromuscular status otherwise normal. Reflexes—biceps, triceps, radial, pectoral, knee jerks, and achilles are equal and active bilaterally. Abdominals present. Cremasteric present. Babinski group negative. Not positive of the Babinski on the left foot due to the old gunshot wound. Cranial nerves—(1) Olfaction normal; (2) Vision grossly normal. Fields normal to testing. Fundi normal; (3, 4, 6) *EOM* normal. No nystagmus; (5) Mastication and facial sensation normal on preliminary examinations. Subsequent examination revealed a spot on the forehead anesthetic to vibratory sensation; (7) Facial muscles normal; (8) Hearing grossly normal; (9 and 10) Deglutition and phonation normal; (11) Sternomastoids and trapezius normal; (12) Tongue protrudes in the midline without tremor. Pain sensation shows patches of hypoesthesia and variations in sensitivity that follow no anatomic segment and vary from examination to examination.

Laboratory studies were all normal.

Rorschach test revealed patient to be rather tense, neurotic and of no better than average intelligence. It showed no evidence of organic disease of the brain. The Minnesota Multiphasic test also confirmed our opinion that there were many neurotic changes present and showed no evidence of an organic reaction. The nature of these reports were explained to the patient and he was allowed to read the letter to the insurance company which set forth the recommendation that the patient get his difficulties with the insurance company straightened out, that if there was any further compensation due him that it be paid at once and that he be permitted to return to work.. Both the patient and the insurance company have apparently agreed to accept these terms. At least, to date, we have not been summoned into court for further testimony concerning the patient's difficulty.

A different type of functional reaction to trauma is demonstrated by the report on the following case:

Patient was examined June 22, 1944. The history reveals that a cargo sling struck the patient in the back producing a hematoma about 5 by 8 cm. He was not unconscious and hospital care was unnecessary. He was referred for examination because of his great incapacity. He walked slowly in a rather stooped position and used a stick. With much effort he was able to stoop over and pick things up off the floor. Patient resisted extension of the legs on the thigh and flexion of the thigh. Any movement of the spine or hip joints was painful. In all instances the pain was referred to the area of the hematoma on the back. The deep tendon reflexes were all sluggish but within physiological limits and they were equal bilaterally. Coördinated movements were performed slowly but accurately. Cutaneous sensation was normal throughout. The pupils were small and fixed to light and accommodation, suggesting a reaction to sedative. The cranial nerves were otherwise intact.

The patient was quite depressed and dejected because he believed his wife was unsympathetic. She refused to wait on him at home and would not do as he told her. He was also very much concerned because he "had no nature" since the accident. He believed that the accident had injured him permanently in this regard. At present he seemed as much concerned over a heavy feeling in his head, pain in the precordial area and loss of appetite as he did over the injury.

Impression. A local injury, with no evidence of central or peripheral neurologic damage. He was showing a reactive depression which causes him to exaggerate the symptoms present. When free of pain and off sedation, the pupillary reflexes should be re-evaluated.

MALINGERING. The question of malingering often produces a great deal of argument in compensation cases and other types of traumatic reactions. Detailed examination of these patients will usually reveal that they have for many years been unable to adjust to ordinary life situations and a great many of them fall within the group commonly dubbed the "constitutional psychopath." While it is true that such persons are not deserving of compensation, in a broad psychiatric sense they are ill to the same extent as the neurotic or the organically injured person. It is merely that the company or party involved in the compensation suit is in no manner responsible for the patient's difficulty. These persons should not be considered traumatic cases in the ordinary sense of the word but are rather persons whose constitutional psychopathic state or other reaction is manifesting itself by attempting to be dishonest and obtain money under false pretenses from an insurance company, or corporation, or some individual, whom they accuse of wronging them. These cases should be properly diagnosed and considered in terms of the material contained in the chapter on Constitutional Psychopathic Inferiority. All the theoretical aspects and all the symptoms and signs contained in that section apply equally well to patients who are attempting to receive compensation, pretending to be injured. The neophyte is warned to study these patients very carefully and not confuse a hysterical neurosis or an anxiety state following trauma with patients who are being frankly dishonest in a situation of compensation.

Methods of Examination. Very detailed examination is always required in handling any type of traumatic or insurance case. The successful handling of traumatic patients, particularly in those where compensation is involved, begins the moment that one is first introduced to the patient. In general, traumatic cases will be seen under the following circumstances by the neuropsychiatrist. First, the large group in which the patients themselves or the patient's representative asks the psychiatrist to examine the patient to determine the extent of injury with the view of obtaining treatment, and in many cases with the view of establishing a claim for compensation. The second large group is the group in which the insurance company has asked the patient to report to the physician for an examination and consultation to determine the nature and extent of the injury and the appropriate treatment. The physician's attitude toward the patient should be the same in both instances and it should of course be the same toward the referring agent. The physician should assume, which is usually the case, that what both the individual and the insurance company want is a true evaluation of whether or not any injury has been sustained, the nature and extent of it, and what may be done about bringing about improvement in the condition. One should not approach the patient in terms of trying to find out something to get him compensation or in terms of trying to find out something to keep him from getting it. When the physician is hired by the patient himself, the patient usually assumes this to be his attitude. When, however, the consultant is called by the insurance company it is sometimes necessary to explain to the patient the consultant's status in the case before any successful rapport can be established with the patient. It is our policy to state to the patient frankly that the insurance company has asked us to examine him, that they sometimes do ask us to examine patients in an effort to honestly determine the nature and extent of their injuries, and if they have not been injured, what might be causing the patient's present symptoms. Most patients will accept this in all fairness and if the interview is properly handled one can usually have the patient's coöperation and appreciation of the unbiased point of view.

The first step in obtaining a fair evaluation of any traumatic case is to get a history. One should be especially careful to obtain the patient's account of the time of the injury, the exact circumstances in which the injury was sustained, whether or not he was unconscious or merely dazed by the injury, and how long either state persisted. He should be quizzed carefully as to what things he recalled when he first began to come to. He should then give a detailed recital of the evolution of his symptoms since the injury. These particular items are extremely important in getting a history in compensation cases. One should also obtain in great detail the history of any previous injuries and previous contacts with compensation commissions or courts. The rest of the history should be obtained as in any other patient but should be obtained in great detail. Careful records of these histories should be kept and where possible the patient's account should be made verbatim. One of us has found it useful to use a recording device for getting the patient's history in exactly his own terms. In addition to the patient's history, it is extremely important to get his family's version of the symptoms and the change in the patient since the injury. This should be obtained from as many members of the family as possible and preferably one should interview the members in individual interviews as their stories will sometimes conflict if they are interviewed separately. A copy of the record of the patient's care in the emergency station or the emergency room should be studied with particular attention to the duration of unconsciousness, the depth of unconsciousness, the presence or absence of convulsions, condition of the spinal fluid and external injuries. Another important factor in evaluating the nature and extent of the patient's injury are the so-called eyewitness accounts to the accident. It is usually possible in industrial cases to obtain this material from the foreman or supervisor and from fellow workmen. In most cases the company physician or safety supervisor of the company will have obtained this information and they are usually quite coöperative about submitting a copy of it to the physician. One frequently finds marked variations between the fellow workmen's description of the accident and the duration of the unconsciousness as compared to that of the patient. These items are of great importance in evaluating the symptoms. The history of any traumatic case should carefully survey the patient's record of adjustment prior to his injury. The two items that are particularly pertinent in distinguishing a person who is well adjusted in his occupation from one who is not are the patient's previous work record, including changes of occupation and his marital history. A large number of these patients will give a history of very poor adjustment to occupation and to marriage with nomadism from job to job and wife to wife. There is also an amazing record of previous injuries in most of these cases. The incidence of previous injuries has been rather extensively reported in the literature.

After obtaining the history, the next step in the evaluation of one of these patients is a very detailed physical and neurologic examination. Patients are resentful if they are not examined carefully and the physician gives an opinion without fully evaluating all the factors in their case. If the physician's examination is skillfully performed and done in great detail the patient begins to develop considerable respect for the physician, believes that the physician is genuinely interested in the welfare of his case and is more apt to follow the physician's recommendation. At the conclusion of these preliminary examinations the patient should then have a number of complimentary examinations, most of which involve laboratory procedures. It is our policy to carry out these procedures in patients irrespective of what our clinical findings may have been, for the simple reason that it again makes the patient feel that our investigation has been thorough and our interest in him genuine even though our clinical findings may have been completely normal so far as somatic pathology is concerned. In our cases of head injury laboratory studies such as blood, urine, Wassermann, examinations are done. In addition, all such cases should have spinal puncture performed, unless this was already done in the Emergency Room and reported as normal, and all cases should have blood chemistry studies, both sugar and N.P.N. performed. The accumulation of nitrogen metabolites or a low blood-sugar level may produce certain of the symptoms that are frequently associated with so-called posttraumatic reactions. Skull x-rays are in general noninformative, so far as any injury to the brain is concerned, but the concepts of the lay public, the attorneys, courts and judges are such that any patient who is claiming a head injury who has not had a skull x-ray is not considered to have been adequately examined. Many patients who are told that the x-ray of their head is entirely normal will accept the idea that the brain is not injured without a realization that this is actually no criterion of brain injury at all. It is our policy, therefore, to order skull plates routinely in all patients for their own satisfaction even though we feel we get little information from them. If there is evidence of definite space-occupying lesion or loss of cortical tissue we of course recommend that the patient then have a pneumoencephalogram which is in most cases informative. These, however, are not done routinely and are done only to further substantiate evidence of very definite organic alterations in the structure of the brain. It is our policy in all of these cases to do an electroencephalogram starting with the standard six-lead test. If any pathology is detected in this test, the patient is then given a multi-lead test, in most instances a 16-lead one, to determine whether or not there is any localization present. The use of the electroencephalogram in posttraumatic cases is fairly recent and the exact meaning of the presence or absence of findings is still open to some debate. Increasingly large amounts of material are accumulating to establish the value of this method in the clinical study of posttraumatic cases. Williams has studied the use of electroencephalogram in great detail in head injury cases in both acute and chronic conditions. He has found that the electroencephalographic changes usually parallel the clinical progress of the case. He has found the electroencephalograph to be of value not only in determining the presence of injury but also in following the course of the patient's clinical improvement. He has found that when the clinical course and the electroencephalograph course parallel one another that recovery is the general rule, but when the electroencephalograph shows recovery and the clinical symptoms persist, the patient's symptoms tend to persist more or less permanently. It has been shown that most of the posttraumatic cases have some type of focal abnormality rather than the diffuse abnormality such as seen in convulsive patients or patients with so-called "normal abnormalities."

Jasper and Penfield in studying posttraumatic epileptics found that 90 per cent of them showed some type of focal epileptic discharge. The waves were a combination of small slow waves with random spike and sharp waves. They report complete excision of the focal area in their cases brought about recovery in most instances. If the slow waves persisted after the operation it was considered to be a bad prognostic sign. At present one may state that when the electroencephalographic tracings show evidence of abnormalities, particularly of a focal type, in a patient who has a history suggestive of a definite head injury, this is valuable evidence in support of the patient's claim of injury. If on the other hand, the history and clinical findings do not closely correlate with the electroencephalogram in either direction the electroencephalographic tracings become less significant. If the patient gives a history of minor trauma and the electroencephalographic tracing is normal, we in general interpret this as being further evidence that the patient has not had a severe cortical injury. More detailed work is necessary in the use of the electroencephalogram and its correlation with clinical states in the traumatic reactions before it is of more specific use in these instances. At present, it is a valuable complimentary examination and in most instances yields far more information than such standard procedures as skull x-ray or spinal fluid examination. Psychologic tests in skilled hands also give great aid in determining whether or not the patient has received an injury. Probably the outstanding test among these is the Rorschach test. Russel, Grassi and Melenkier have reported a series of military cases studied for posttraumatic changes by the Rorschach method. The Rorschach test does distinguish rather easily between predominantly functional and predominantly organic reactions. In posttraumatic cases a predominantly organic configuration is usually assumed to be due to the trauma if paresis, arteriosclerosis and tumor may be ruled out. The test is also valuable in separating the malingerer, the posttraumatic neurotic and the posttraumatic organic case each from the other in difficult situations. It should be emphasized that this test is of value in the hands of a skilled operator. The neophyte or amateur in the Rorschach method is not competent to make these differentials and the use of such persons will only confuse rather than clarify the issue. Another test that is becoming of increasing importance in distinguishing the evidences of minor head trauma are the so-called "Halstead tests." This is a series of rather complex test situations in which the patient's ability to organize things into categories is determined. It is probably the most sensitive of all tests for picking up minor organic changes in cortical function. Unfortunately, the test as presently constituted requires the presence of a skilled operator of which there are very few now trained. This, of course, is something that will be remedied with time and as years go on this test will become of increasing value to individuals confronted with difficult differentials. Other psychologic tests have been of little value in aiding us to determine whether or not the patient is suffering from some organic trauma of the central nervous system.

It is our practice, when we have obtained all of the evidence from the above methods, to bring all of this material together in a brief formulation which is then presented to the patient. If we find that the patient is suffering from organic damage he is so told and we tell him almost verbatim what our brief letter report to the insurance company will be. It is also our policy to send a copy of the clinical records substantiating our opinion to the insurance company. We obtain the patient's permission to do this and in almost all instances this is granted. In the event that we find the patient to be suffering from a posttraumatic functional disturbance, this is also explained to the patient. We are extremely careful in explaining the symptoms to the patient, to explain to him that we realize that he has symptoms, that the symptoms exist but that their cause is not from the trauma itself but rather from his reaction to the traumatic situation. The symptoms are then explained to him in terms of anxiety and autonomic phenomena or in terms of hysterical and conversion phenomena, depending upon which type of reaction the patient happens to be showing. The importance of understanding the nature of his symptoms in order that he may rid himself of them and go back to a gainful occupation is stressed throughout the interview. Nothing belittling is said and the material is presented to the patient in a manner which makes it almost as easy for him to accept this as it would if we told him his brain was injured. In fact, we usually point out to him how fortunate he is that he has received only a functional disturbance from which he can entirely recover rather than an organic defect in the brain which is irreversible. Approached in the proper manner most patients accept these explanations quite readily. These patients are also told of our opinion to the insurance company and in most instances we are able to obtain their permission to send a copy of the clinical record to the insurance company to substantiate this opinion. We have had fairly good success in getting these patients to accept the lump sum settlement from the insurance company, the amount and exact nature of which we do not attempt to discuss with the patient but attempt to tell them that they must get their trouble with the insurance company definitely settled before they will show very much response to psychotherapy. In most instances patients are able to accept this. In the patient who is pretending to be injured for some gain to himself, the patient is merely informed that we find no evidence of injury of any type that we feel he is probably exaggerating whatever symptoms he may have. Many of these patients accept their detection without too much difficulty. Some become very indignant. A number of these patients have dropped the claim after having been examined by us and told that we are going to report to the insurance company that in our opinion they are not entitled to any compensation. During this formulation to the patient the physician's attitude is an extremely important one. It should always be that of friendly explanation to the patient and the physician should always assume that the patient really wants to know the facts of what is wrong with him. The physician should never assume that the patient is on the defensive about his illness and should not himself get on the defensive about his findings. The patient should not be given any reason to have to defend his symptoms. If the physician attacks the patient's symptoms in a rather aggressive manner the patient will often be irritated, and feel it necessary to defend his various complaints and symptoms in order to keep from considering himself dishonest. The patient takes the physician's attitude of attempting to understand the nature of the illness and this will in most instances succeed in getting coöperation. Because you have explained the symptoms to the patient it gives him an admirable excuse to give up the whole business of which he is often tired. Patients who have organic handicaps as a result of their injury should be given a very frank evaluation of this and what it will mean to them in terms of future usefulness. It is extremely important that the physician's attitude be not based on what the patient's injuries have been but rather on the capacities, potentialities and abilities he has left that he can use, much attention should be focused on means and ways in which the patient can use the capacities and potentialities he has left. For example, a patient who loses an extremity can be readily put to work usually in the same industry doing something which requires only one extremity. In the case of a head injury, however, it is sometimes more difficult to find duties to which a patient can adapt himself. Posttraumatic convulsions can be controlled in most instances by medication and where focal abnormalities are detected they may be relieved by operation. These cases can be placed on jobs where it makes no difference if they have an occasional seizure. We have replaced many of these people in industries where they work faithfully and readily. Patients who show symptoms of recurring headaches, dizziness, and forgetfulness are more difficult to manage and they usually have to be placed at occupations of greatly reduced responsibility. Many of these patients cannot work for long periods out-of-doors nor can they do very heavy work. On the other hand, they frequently can do such things as cleaning up, janitor work, or clerking in the store room. Their irritability is a constant problem in getting along with their fellow man but they do much better if employed than if they are completely dependent on compensation allotments from the insurance company.

No mention has been made here of the care of these head injuries during the immediate posttraumatic period as this is a problem for surgeons and neurosurgeons, and the psychiatrist or neurologist usually is called in to see the patient late in the course of his illness and to determine the nature and extent of the previous injury. Most of us do not do emergency work and it is not felt that this is the proper place nor do the authors feel competent to describe the emergency care of head injury.

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CHAPTER 11

PSYCHONEUROSES

The psychoneuroses are mild or minor mental reactions which represent attempts to find satisfaction in life situations rendered unsatisfactory by faulty attitudes or by faulty emotional developments. These attempts are manifested by various physiologic reactions, complaints of bodily discomfort, or recurrent mental trends recognized by the patient as being faulty or unusual. Practically, they are somewhat artificially divided into various etiologic entities. The etiology varies in individual cases but they all have in common the inability to meet life situations, and all of them resort to substitution efforts or symbolic gratification of urges not recognized by nor accepted by the individual. They are the commonest of all mental illnesses but most of them are treated in the general medical clinic or by the general practitioner and only the more severe or persistent ones come to the attention of the psychiatrist. Because these patients' behavior is not unusual and because their conflict situations are manifest only in the above-mentioned somatic complaints, they rarely come to hospitalization in psychiatric institutions. It has been estimated that as much as 40 or 50 per cent of those coming to the general practitioner's office have a psychoneurosis as the major cause for the seeking of treatment. It should be mentioned, however, that all individuals who are sick have both physical and mental components to their illness. The psychoneurosis merely represents those whose major pathology is in the mental and emotional sphere and whose physiologic changes are secondary to and are a concomitant of the emotional illness. The neuroses are distinct from the psychotic reactions for two reasons. In the first place the etiologic mechanism is clearly psychologic and takes place according to well understood psychologic mechanisms. In the second place the behavior disturbances in the psychoneurotic patient takes the form of unusual concerns and worries about one's self but usually do not interfere with the individual's ability to appreciate the rights of other people and do not interfere as a rule with their ability to conform to social customs. In fact, the neurosis itself may be understood as an attempt to transmute desires which might not be socially acceptable into some form of behavior which does fit into the patient's concepts of morals and ethics. In the psychosis, on the other hand, there is some disagreement concerning the etiology and it is by no means as clear-cut as in the neurosis. The behavior in the psychotics is usually unpredictable and very frequently antisocial to the extent that it makes him dangerous to himself or to the persons around him. The psychotic does not appreciate the rights of other persons and thus has difficulty in conforming to the demands and mores of the group in which he lives. In a few words, the psychoneurotic patient generally is in much closer contact with his environment than the psychotic and, as it were, far fewer phases of his personality are in obvious disharmony with the responsibilities and expectations of everyday living.

Etiology. The exact etiologic mechanisms will be discussed under each subgroup of the psychoneuroses. They all follow a general pattern, however, which is about as follows. The individual has certain basic needs or desires which must find satisfaction if he is to survive in a manner which is satisfactory to him. The environment or culture in which an individual lives makes certain demands upon him. These demands vary from time to time and from one community to another, but to some extent they are in the category of social checks demanding behavior restraints, inhibitions and suppressions. Patients, either due to some shortcoming within themselves or due to some difficulty imposed by the environment, find it necessary to reach some compromise with the environment because they are unable to find satisfactory solutions to their problems under the circumstances present at the moment. Much of our normal activity in many of our so-called social functions and customs are examples of this type of adaptation on a so-called normal scale. For instance, there is our institution of marriage. We surround marriage with a good deal of religious and civil ceremony and by these means attempt to control heterosexual expression in keeping with our monogamous type of marriage, and for the social weal. By surrounding the sex act with sin and by placing it under civil control we are able in some instances to persuade people to control these urges and to express them only in marriage. The analysts call such an adaptation of personality drive to fit the mores or concepts of right and wrong according to our culture a type of "ego adaptation." In some individuals these social pressures are so strong that the marriage ceremony fails to remove the patient's sense of guilt when engaged in the sex act and may result in frigidity, dyspareunia, or general running away from the sex act through pelvic complaints, headaches, shortness of breath or other somatic complaints. There is no gross or microscopic pathology of the nervous system demonstrated in the psychoneuroses. Sigmund Freud has postulated, "Because of the essential unity of the two things that we divide into somatic and psychic one may prophesy that the day will come when the avenue from biology and chemistry to the phenomenon of neuroses will be opened for our understanding and we hope also for therapy." Barcroft has stated, "We have, therefore, arrived at the point where we can say not only that the form of life —man—which has developed an intellectual power far beyond any other is that in which the constitution of the fluids which made himself is most exactly regulated; but also that the most immediate effect of interference with the chemical or physical properties of the blood is impairment of the higher qualities of the brain." In spite of these facts we have no specific relationship between specific physiologic functions and specific states of consciousness or specific conflict situations. Putnam has stated, "There is still an enormous gap between the facts of neurophysiology and those of psychology." Pathology is largely in the sphere of inter-relationship between the brain or between the human being and his environment. Sherrington has stated, "Each of us at any moment of the waking day is a whole bundle of acts simultaneously preceding. Among that bundle is a main or focal one which our conventional viewpoint stresses as the one which at the moment we are doing." Commenting upon the interaction between the body and the environment, Sherrington also states, "Inside the animal's form sits the brain, its work broadly to increase the animal's grip on the world about it and hardly less the grip of the external world upon the animal, but the dominant partner in the driving of the brain is the outside world in commerce with the animal." Goldstein has probably made the most pertinent remark concerning organism's attempt to cope with the environment and only by an understanding of the Goldstein principle can one adequately understand human behavior. While it is true Goldstein's work was largely based on organic damage to the brain his remarks are very pertinent in a much broader sense. For example, he states, "We forget that normal as well as abnormal reactions (symptoms) are only expressions of the organism's attempt to deal with certain demands of the environment." Also, "Symptoms are answers given by the modified organism to definite demand." "The defective organism achieves ordered behavior only by shrinkage of its environment in proportion to the defect." "From whence comes the direction in the activity of the organism? (1) The direction is effected through a certain determination and force issuing from the organism itself." While no definite pathology and no definite alterations of the brain physiology have been demonstrated in the psychoneuroses frequent transitory or temporary disturbances in general somatic physiology are encountered in these states. These changes will be discussed under the various diagnostic subgroups but in general they may be considered to be secondary results of the tension and autonomic imbalance and not the cause of these changes.

The study of the physiologic changes secondary to the psychologic disturbance has brought into being a whole new subspecialty in medicine usually referred to by the cumbersome title of "psychosomatic medicine." Because of its popularity and because these cases fall in a special group insofar as their symptomatic expression is concerned, they are discussed in a separate chapter. Students should remember that they are manifestations of a neurosis.

The psychoanalytic school has contributed more to an understanding of the psychoneurotic reactions than any other single group. The majority of psychiatrists, analytic and nonanalytic, use concepts first offered by Freud and his followers. The material in this chapter is based on analytic concepts.

Anxiety. Before proceeding to a detailed discussion of the various subgroups in the neurotic reaction, some remarks concerning the general nature of anxiety are pertinent. We have stated that the neurosis represents the patient's attempt to find satisfactions in the environment. The analytic group feels that the roots of neurosis rest in infancy and work in other spheres tends to support this. The infant attempts to find satisfaction for his instinctual strivings from the environment about him. Meeting with certain rules, taboos, and frustrations in his attempts to satisfy these drives he often develops ideas that the satisfaction of these drives may lead to dangerous conditions or to situations which are threatening to him. The affect produced by fear that gratification of the instincts will be refused or result in personal danger to himself is described in analytic terminology as anxiety. The understanding of neurotic disturbances and of much human behavior in general makes it imperative that the student understand anxiety. The affect of anxiety results whenever the person fears a traumatic state in either the psychologic or physical state. These fear reactions result in much tension and the unmastered tension, or if you like, unused energy manifests itself as anxiety. Fenichel has written the following description which seems pertinent: "Thus in the last analysis all anxiety is a fear of experiencing a traumatic state, of the possibility that the organization of the ego may be overwhelmed by excitation. However, after the ego has developed enough to control instinctual actions and to bring about gratifications, the instinctual impulses ought not to be frightening anymore. If they still are, it is due to the fact that fears over loss of love or castration have induced the ego to block the normal course of its excitement, thus creating an insufficiency of discharge." Thus, in effect, analytically, anxiety may be considered unused energy generated by the ego's attempt to find satisfaction for the instinctual strivings from the environment. That is, failure to find satisfaction or developing fear reactions over the available sources for satisfaction results in frustration, tension, and a failure to discharge the energy. This state of impending fear is known as anxiety. Persons subjected to dangerous situations are more apt to be free of anxiety or suffer from less anxiety if a certain amount of action of a constructive sort is possible. Thus in combat, soldiers who are able to carry out aggressive acts against the enemy are less prone to develop anxiety reactions than those who were holed-up in forts, foxholes, or otherwise immobilized and compelled "to take" without an attempt "to dish it out." Fenichel feels that anxiety may be stratified. The first phase is that of trauma in which anxiety results in an automatic and unspecific way. Second, in situations of danger, anxiety serves the ego and the anxiety is created by the anticipation of the fear, that is the realization that the fear is impending and the anxiety is well controlled and merely warns the organism in an attempt to get it ready for the "fight or flight" of Cannon. The third phase, in panic the control fails and the anxiety becomes overwhelming causing the individual to regress to a more primitive state of adjustment in which the anxiety can be relieved or fixed. This latter results in neurotic activity and a classic example is the so-called anxiety hysteria or phobic state. Many of these earlier anxiety reactions occur in infancy. A child deprived of love, affection, or prematurely deprived of the satisfaction of the breast may develop severe frustration or fear and anxiety reaction. The anxiety states produced by the castration fears encountered during the oedipal situation are classic examples of the etiology of anxiety. These anxiety reactions may repeat themselves in adult life. Situations of fear may be reacted to with anxiety and preparedness for protective action or may result in panic with regressive phenomena. A classic example of panic is the patient who has repressed latent homosexual trends but who in certain situations is threatened with their reappearance in consciousness. If all other attempts at repression fail the patient becomes extremely anxious, resulting in a panic reaction with regression to psychotic behavior which may be on a temporary or permanent basis. In these states one may see hallucinations, loss of sphincter control, or long amnesic attacks.

Before leaving a discussion of anxiety, further remarks concerning physiologic studies should be made. Solomon and his co-workers at Boston Psychopathic hospital have been doing some work on the production of anxiety by various drugs—particularly Mecholyl and epinephrine. They have found that patients show different anxiety reactions to these two drugs, and that this difference enables them to predict the response to various types of drastic therapy. The deeper significance of these studies has not been delineated and at present the method is offered as a form of differential diagnostic study so that one may more accurately prognosticate the patient's response to treatment. This is an extremely practical use of the method. Of deeper significance would be the psychobiologic difference in these people that makes them respond differently to physiologic insults.

Classification or Types of Psychoneuroses. There have been many attempts to classify the psychoneuroses in a manner satisfactory to all workers in the field. So far, these attempts have been unsuccessful. The original effort was to classify the cases according to description or symptomatology. This has resulted in the commonly used classification of today. Attempts by other workers to classify the psychoneuroses into various groups according to the psychopathology or the psychodynamic structure has not been altogether successful because of the many overlaps between the various subgroups. The whole problem of classification in the psychoneuroses needs to be carefully resurveyed. To avoid confusion, however, the present discussion will be carried on according to the official classification of the American Psychiatric Association. It will be noted here, however, that there are many subgroups. According to the official classification published in 1942 by the American Medical Association under the name of Standard Nomenclature of Disease and of Operations, the neuroses are classified as: (A) *Anxiety Hysteria;* (B) *Conversion Hysteria*, with subtypes (1) Anesthetic type, (2) Paralytic type, (3) Hyperkinetic type, (4) Paresthetic type, (5) Autonomic type, (6) Amnesic type, (7) Mixed hysterical psychoneurosis; (C) *Psychasthenic States*, or *Obsessive Compulsive States* with the subgroups (1) Obsession, (2) Compulsive tics and spasms, (3) Phobias and (4) Mixed Compulsive States; (D) *Neurasthenia;* (E) *Hypochondriasis;* (F) *Anxiety State;* (G) *Reactive Depression;* (H) *Anorexia nervosa;* and (I) *Mixed psychoneurosis*. It will be seen under the discussion on the various types that according to etiologic consideration some of these subgroups do not represent clear-cut entities. It is quite true that the Classification and Nomenclature of the Psychoneuroses is in a somewhat muddled condition. In deference to this incompletion (which, even though it is scientifically healthy, is still rather confusing) several other nomenclatures are presented. Each one has its virtues and its faults.

Ross puts forward the suggestion that all neuroses represent faulty responses to difficulties or attempts to escape from reality: By *overreaction* resulting in neurasthenia, including the anxiety neuroses and anxiety hysterias of many writers; (2) by *underreaction or failure to react at all*, resulting chiefly in conversion hysteria; (3) by pretending that the difficulty does not exist, resulting in compulsion neuroses.

In the Fifth Edition of this book, the following simple classification was given: (1) Conversion hysteria, (2) Neurasthenia, (3) Compulsion neuroses, (4) Anxiety neuroses.

While this is probably an oversimplification, yet the mechanisms involved are concrete and readily understood by the student.

In conversion hysteria there is the conversion of emotional conflict into hysterical symptoms and signs, often involving large losses of functions. The chief mechanisms utilized are *repression* and *substitution* protective hysterical phenomena for the repressed and unresolved psychic trauma.

In the obsessive-compulsive reactions it would seem that the clinical expression is accomplished and the repression dealt with by *displacement*, *substitution* and *symbolism*. Perhaps a simple analogy may be helpful. If a stone is dropped into a tumbler flush filled with water, some of the water is displaced and runs over the side of the glass; the stone takes the place of the displaced water, that is, it is substituted for it and represents or becomes the symbol for the displaced water.

A. ANXIETY HYSTERIA. There is no complete agreement as to what is included under this designation and some workers do not use it at all. Some place in this category those cases showing the ordinary symptoms of Hysteria of the Conversion type plus symptoms of anxiety. In its original, or classic, use, however, Anxiety Hysteria was meant to indicate those phobic states in which the fear of some external object is the symbolic representation of the original feared object. (See the classic case of "Little Hans," formally titled "A Phobia in a Five-Year-Old Boy," Freud, Vol. III, Collected Papers.)

In discussing the various artificial classifications of the neurosis, it should be recalled that all the so-called types of psychoneurosis are merely manifestations or symptom formation and that the particular neurosis will depend upon the patient's choice of symptom formation. It will be obvious to the student that any arbitrary classification of these patients contain many overlaps. Patients developing anxiety neurosis have from past frustrations developed a certain amount of tension, or a certain "energy charge." Such a person would react to real danger or to imaginary or symbolic dangers with a greater proportion of panic than would his more stable brother. Such a person meeting a situation which mobilizes this unconscious conflict and threatens the person with overwhelming amounts of anxiety (panic reaction) will cause him to react with the so-called phobic or anxiety hysteric reaction. By a process of repression and displacement of the symptomatology from the original object to some external and easily avoided object, the individual obtains a certain measure of relief. His anxiety attacks occur only when confronted with the symbolic situation. By avoiding these situations he succeeds in relieving himself of considerable tension and fear and lessens the danger of a sudden flooding of consciousness with the basic fear and its implications.

A person may develop a phobia about objects for which he unconsciously wishes. In other cases the object or situation the patient fears colors the phobia. For example, patients with castration anxiety, may fix their anxiety by a fear of knives or other sharp objects. In more complicated cases the connection is not so clear, and the situation feared less directly represents the original situation and may be looked upon as a symbol of the original fear-producing situation. Thus, little Hans, previously referred to, was afraid of horses instead of his father. The fear of falling from high places, as described in the following case, frequently represents a basic fear of being punished for hostile or homicidal wishes directed toward someone in the environment, usually a parent.

The patient is a 37-year-old white male, who came voluntarily, complaining of fear and panic whenever he was in a position above the ground and also fear when in a closed building where he was any distance from the exit. He states this fear of high places dated back to experiences in World War I. Since his discharge from the Army, the patient has not been above the first floor in any building. At times he has found himself seized with tremendous panic when in a football stadium if in one of the higher tiers of seats. When first seen, the patient had been suffering from a toothache of many days duration; he finally persuaded himself to see a dentist who was on the third floor of an office building, but when he got into the chair and looked out the window, he became so panic stricken that he had to leave. He endured his toothache until he succeeded in finding a dentist whose office was on the ground floor. The patient has been seen by a long series of psychiatrists and one attempt at extended psychoanalysis had been undertaken, but with no relief of symptoms. The patient dated the onset of his fears to an episode which occurred while in training during the First World War, at which time he and his company were on night maneuvers along the California coast. It was extremely dark and foggy and the patient slipped over a cliff and started sliding down the surface of the cliff but managed to grab hold of a bush and held on. It was several hours before he was missed and rescued. His rescuers came with light and pulled him off the cliff and he found that there had been a small ledge a short way below his feet, but beneath that a drop of several hundred feet to the rocks and water below. The patient states that from that time forward he has been extremely afraid of high places. In spite of his fear, he went overseas in the war and served with distinction in the front lines and was given a citation. He returned to this country after the Armistice with a group of wounded, the patient having received a minor injury in combat. When placed upstairs in the hospital, the patient began to have his fear of high places. He had noticed, however, tremendous attacks of anxiety and a desire to run on moving forward in the combat area. He states that while he was afraid to go into combat, he was even more afraid of appearing cowardly before his troops and he therefore went forward at a tremendous cost in terms of anxiety, sweat, diarrhea, etc. He states that he felt that he was on the spot especially because he was only 16 at the time and was in command of a group of older men. The men recognized his capacity in spite of his youth, and coöperated with him in every way. For this reason, he felt doubly sure that he must not let his men down. Upon his return to this country and finding that he became extremely panicky when upstairs in a building, he was given a medical discharge from the Army and has received compensation since that time. The patient made an attempt to go to school under veterans' benefits, but in each instance gave up because some of his classrooms were upstairs and because he figured that any business he went into would require his being above the ground floor. He spent most of the last several years in an attempt to find relief from his symptoms. He could recognize the futility of the symptoms and their absurdity, but this did not prevent him from becoming extremely anxious, cold, clammy, sweaty, short of breath and panicky whenever he found himself above the ground floor. In interviewing the patient it was found that he not only became fearful in high spots but the thing he feared was the desire to jump from the window. He states that this desire to "jump out of something" was at times almost more than he could control and he was extremely fearful that he would do this. Attempts to discover the mechanism of these fears which were precipitated by a training camp accident were without success. It is also pertinent that the attempted psychoanalysis and the other attempts at psychotherapy had likewise developed and produced very little in the way of etiologic material. The patient always seemed to be very coöperative and anxious to discuss his problem, but no underlying material was produced. It is interesting to note, however, that the patient lived with his mother, who was a widow. He was also very deeply attached to his mother but expressed considerable resentment and hostility toward his father who had died before the patient entered the service, but no details of the feelings and attachment for the mother or to the aggression toward his father were ever elicited. The patient had made several attempts to marry, but each time had given it up, stating that he felt that he should postpone his marriage until he became well. Attempts to tie this material in some manner into the etiology were also without success. The patient used to obtain considerable relief from his anxiety and panic by discussing them with a physician, but no true relief of the basic symptoms was obtained, although prolonged attempts at therapy were undertaken. It is felt that the above represents a rather typical case of Anxiety Hysteria, the anxiety arising in the setting of specific situations. The causal factors in this case were not discovered.

The anxiety hysterias are the most primitive form of neurotic reaction, and are the type of reaction usually seen in children. The unusual fears of the dark or other anxiety and panic reactions of children fall into this classification. Many of these children show spontaneous recovery from these states as they grow and the ego's ability to cope with anxiety improves.

The reason children so frequently find sexual functions anxiety producing has been previously explained in terms of their castration anxiety, or other threats of retaliation on the part of the parent of the opposite sex. In addition, many children first witness sexual relations between the parents (the so-called "primal scene") during this period of oedipal conflict and interpret the activity as a form of aggression and hostility on the part of the father. These children may then develop anxiety in response to any situation which has sexual significance.

B. Conversion Hysteria. Conversion Hysteria has been recognized as a clinical entity for many years. The etiology has been ascribed to various factors. For example, Charcot concluded that hysteria was a degenerative state largely due to inheritance. Bernheim and Babinski were convinced that hysteria was the result of suggestion. Binet felt that the mechanism of hysteria depended on a condition of double consciousness, practically two independent states separated by amnesic periods. Janet described hysteria as, "A mental disease belonging to the large group of the diseases due to weakness through cerebral exhaustion." Freud and Breuer laid the groundwork for the modern concept of hysteria when they published the case of Anna O. in 1895. They believed that hysteria was due to psychic trauma, painful ideas usually associated with sexual conflict which in a particular individual are unacceptable to the conscious mind and code of ethics. These ideas are not given an emotional outlet, but are relegated or repressed into the unconscious portions of the mind and thus become a buried source of conflict. Such repression often takes place during childhood. Later, these buried complexes are converted, or rather, the emotion or affect with which they are associated is converted into a symbol, which is objectively evident as an hysterical symptom. To quote Freud, "(1) The hysterical symptom is the memory symbol of a certain efficacious (traumatic) impression and experience. (2) The hysterical symptom is the compensation by conversion for the associate return of the traumatic experience. (3) The hysterical symptom—like all other psychic formations—is the expression of a wish realization. (4) The hysterical symptom is the realization of an unconscious fancy serving as a wish fulfilment. (5) The hysterical symptom serves as a sexual gratification and represents a part of the sexual life of the individual (corresponding to one of the components of the sexual impulse). (6) The hysterical symptom in a fashion corresponds to the return of the sexual gratification which was real in infantile life but has been repressed since then. (7) The hysterical symptom results as a compromise between two opposing affects or impulse incitements, one of which tries to bring to a realization a partial impulse or a component of the sexual constitution, while the other tries to repress the same. (8) The hysterical symptom may undertake the representation of diverse unconscious non-sexual incitements which cannot lack sexual significance." Thus, in summary it may be stated that Conversion Hysteria is due to a psychologic situation which is unresolved because it is unacceptable to the person's concept of morals, ethics, etc. Through the process of repression, this basic or original conflict situation becomes unconscious and the affect or emotional energy associated with it becomes converted into certain phenomena which are socially acceptable to the person. Through the development of the symptoms, the patient obtains a symbolic gratification for the original wish and at the same time avoids the necessity for facing the fact that such desires are among his own thinking and concepts. By the development of the symptoms and achieving the symbolic gratification of his original desire, the patient obtains relief from the tension produced by his denial of the original need and thus he becomes comfortable. Hysterical patients are usually placid, calm and satisfied with their illness. They are truly persons who "enjoy ill health." The Conversion Hysterias take many forms, as was outlined in the above classification. We have noted that in most instances the symptoms involve one of the voluntary activities of the body, one of the special sensory systems, or the intellectual functions. Thus, one may have involvement of the voluntary muscular system in terms of convulsions, tics or paralysis, or involvement of the sensory system, in terms of anesthesia, parasthesia, hysterical blindness, aphonia, and deafness, or one may have disturbances of consciousness and intellectual function manifest by amnesias, profound memory disturbances, or severe disorientation. Usually the symptoms are gross in character involving annihilation of complete functions. The mechanism is the same in each case. Each share certain characteristic developments in common, irrespective of the particular body system involved. One of the most important symptoms is the patient's attitude toward his illness. As mentioned above, the patient does not seem genuinely concerned or distressed about his health, in fact he often seems to enjoy the illness and to find satisfaction in discussing it at length. Hysterics subject themselves to any amount of examination or surgical manipulation in order to make their illness a more important and prominent part of their lives. This particularly indifferent attitude toward their illness has been dubbed "la belle indifference" by French writers. The second thing that all hysterical symptoms share in common is their unphysiologic nature. Hysterical paralyses and hysterical anesthesias tend to involve body segments according to functional division rather than according to the facts of anatomy and physiology. For example, anesthesias usually involve the hand, the arm, or an entire side of the body, stopping at a sharp line of demarcation, usually the junction of one of the joints of the body or at exactly the midline of the body. In such hemianesthesias it is common to find vibratory sense absent on one side of the skull but present on the other side, with the line of demarcation being exactly in the midline. Patients with hysterical blindness have normal pupillary reactions and frequently blink in the face of very bright light and light stimuli will alter the electroencephalographic pattern in the same manner as it does in a person with normal vision. Another symptom which all hysterias seem to have in common is that of profiting from their symptoms in a superficial sense. This has been called the secondary gain of Hysteria. For example, hysterical patients will frequently get a great deal of extra care and attention from their families by virtue of their symptoms. In fact, if such elements as this are not present, one may even suspect the diagnosis of Hysteria. Deeper or primary gain of the illness is not so obvious from original examination, but is also a factor shared by all patients.

The choice of the organ to be afflicted in hysteria has been the subject of much discussion. It is generally believed that the organ which is chosen will be the one which has been the object of the unconscious sexual phantasies, and will thus depend upon the zone or area of fixation and the experience of the person in attaching special erotic significance to any particular segment of the body. An older theory, still held by some, is that the organ or system chosen will be one which for constitutional reasons is an area or zone of minor resistance; this theory perhaps colors the choice in some cases, but it is felt that the organ which is the most satisfactory symbol to solve the frustrating situation will be the one chosen by the patient to express his neurosis.

The following case illustrates many of the symptoms seen in the typical hysterical reaction.

The patient is an 18-year-old white girl from deep in the piney woods of Texas. She is the youngest of nine children of a poor sharecropper. The patient has not done especially well in school due to slowness in learning and she has been less attractive than her sisters, and as a result less well-liked by the other children in the community. As a child the patient had some type of spasm which, according to the family's description, was probably "grand mal" seizures. The first of these occurred at the age of seven weeks, another series occurred at the age of one year, then from the ages of five to seven she had grand mal seizures at fairly regular intervals. The patient was then free of seizures except for an occasional fainting spell until the age of 14. At this time she had another seizure which was apparently an ordinary convulsion. The patient appears to have discovered that she received a great deal of attention from her family and that she escaped from having to work in the field when she had these spells. About this same time, she began to have more violent and prolonged spells which the family noted would come whenever the family group was assembled, or whenever anyone else in the family was the center of attention. The spells were described by the family as follows: The patient would cry, "Mother, come quickly, I am going to have one of my epileptic spells." She would then swoon and fall on the nearest bed, or if a bed was not at hand, would sink slowly to the floor. Then there was a series of drawing, twisting movements, in which the patient would turn her hand and her body to one side and then begin to shake and tremble all over. Partially through the patient's direction and partially through the parents' own experimentation, it was found that if two members of the family massaged the patient's thighs on the inner aspects and a third member massaged her breasts that she would revive from the spells more quickly.

When the patient was first seen in the hospital, she had a spell while her family was describing them. The family administered one of the above treatments and the patient responded quickly. During the second seizure, the family was restrained from administering the treatment and became very excited, feeling that the patient would most certainly die. They seemed somewhat surprised when she revived spontaneously after about 10 minutes of shaking. It was also interesting that during these spells the patient is perfectly conscious and will respond to questions in a coherent and relevant fashion. If the question is sufficiently interesting, the patient will frequently have a shorter spell and as she starts to answer the question the spell will subside. The secondary gain in this case is obvious. The patient receives a lot of care and attention from the family and is the outstanding member of an otherwise undistinguished family. She apparently also receives some erotic stimulation or satisfaction from the treatments administered by the family during her seizures. The patient responded symptomatically to superficial reassurance. The most important aspect in her symptomatic improvement was sending the family home where they could no longer give the patient extra care and attention. It is interesting that the electroencephalogram on this patient was abnormal and during her stay in the hospital she had one attack, which appeared to the nurse witnessing it a genuine grand mal seizure. The deeper psychodynamics in this patient were not worked out. We might theorize at length concerning them, but we only can say that a rather inadequate person from a very poor environment had discovered that her organic epilepsy brought her certain advantages within her own social group. The patient then extended these seizures into the functional field and had convulsions on order. This type of hysterical reaction is difficult to distinguish from true simulation and the psychopathology is probably very superficial. Some cases are considerably more complicated than the above, and in some the background material is much more difficult to elicit.

The following case is a good example of a patient showing very deeply seated conflicts which find their expression and solution in the development of hysterical symptoms.

The patient is a 41-year-old white female, member of a religious order. She was seen in consultation because of unexplained swellings of her foot. The attending surgeon at first suspected malingering, believing that she was tying some type of tourniquet about the foot just above the ankle, but prolonged and careful observation by nurses and other patients failed to reveal any such procedure. The foot was quite swollen and resembled the ordinary white swelling seen in thrombosis of the veins, but was rather sharply limited to the foot and tapered off rapidly to normal sized leg just above the ankle. According to the history the patient had been bedfast because of the foot for many weeks. It was noted that when the leg and foot were immobilized in a cast that the swelling would disappear. When the cast was removed the swelling would again appear. This was observed on three different occasions. Further history revealed that the patient had been almost continuously hospitalized for the past seven years. The original diagnosis was hemorrhagic purpura, which was confirmed by laboratory studies and a splenectomy was performed. Not long after this, at about the time she was ready to leave the hospital, the patient developed an intestinal obstruction. Toward the end of her convalescence from this, she developed a severe diarrhea. This was followed by another bout of intestinal obstruction and another operation. These and similar abdominal complaints followed one another in rapid succession as in the preceding picture and the patient had had a total of 14 laparotomies, most of which were performed because of intestinal obstructions. In each instance, the symptoms of obstruction had apparently been fairly orthodox and in many instances even laddering of the intestine had been demonstrated in x-ray studies. Following the last operation for obstruction, the patient had then developed the swelling of her foot and ankle. It was originally thought that this was due to trauma, as the patient had slipped while going from one room to another in the hospital. X-ray studies of the foot revealed no change. The foot was originally drained by repeated needle drain, but this brought about no change in the size of the foot or in the patient's symptoms. Application of a cast brought rapid reduction in size. As soon as the cast was removed, the foot again became swollen. Because of this behavior the patient was suspected of malingering. A careful check of the patient's day to day activities revealed no evidence that she was applying anything to the foot in terms of a tourniquet. It was discovered that she was dosing herself with Ex-Lax but it was not proved that this had anything to do with her earlier bouts of diarrhea.

When seen the patient was very pleasant and coöperative and interested in her symptoms. She was obviously at ease and enjoying all of the attention she received.

She readily accepted the fact that the symptoms might be functional in origin, but denied any source of conflict or difficulty. She pointed out that her mode of living was one which protected her from many of the usual environmental demands and responsibilities. She also pointed out that her type of work was an extremely satisfying one. The history revealed that the patient was born in a foreign country and had come to America in order to join the religious order to which she belonged. Further history revealed that she had been well educated as a child and had considerable talent along artistic lines. Her mother had died at the time of the patient's birth and she'd been raised by a grandmother and a very solicitous, overprotective father. Her entrance into the religious order was somewhat opposed by the father, but it was in terms of the family tradition and the father opposed it only because of her youth at the time she entered the order. She denied any conflict or concern over any of these problems. She expressed herself as willing to coöperate in attempts to carry out the interviews under hypnosis in the hope that some deeper material might be produced. The following information is a summary of a long series of interviews carried out under hypnosis during the early phases of the treatment and with combined hypnotic and free-association interviews and informal discussion interviews toward the end of the treatment. During the earlier hypnotic interviews it was also suggested each time that the swelling would go down. It is interesting to note that the swelling did go down, although whether or not it was due to the posthypnotic suggestion remains considerably in doubt. Under hypnotic interviews, a great deal of material came flowing forth and following the hypnotic state when this material was discussed with the patient, she would each time express considerable surprise at it and on one or two occasions denied having produced it.

Her earliest recollection was of living with her grandmother and her father in a small home in her native country. Her earlier memories all seem to center around the family fireside. She recalls frequent allusions to her mother's death and recalls her grandmother making statements to the effect that the patient must be a very good child because her father had given up her mother for her and her mother had given up her life that she might be born, etc. She states she developed some idea that she was in some manner responsible for her mother's death. She also recalls great feelings of longing that her mother might be restored to her and recalls praying long and fervently that this might be the case. Another vivid recollection is the presence of the members of the patient's own religious order in her home. She states that these people would come to her country looking for young girls who might be interested in coming into the order. Several members of her own family were members of this order and several other members were clergymen. The patient's family home was usually made the headquarters for these people upon their visits to their village. She states she held these people in very high esteem and confused the concept of these persons with her concept of angels formed from teachings in Sunday school class and she thinks by her father and by her grandmother. She states she always considered these individuals who belonged to this order as being perfect. During early childhood, the patient attended public schools where she seems to have gotten along reasonably well with the other youngsters, but she states she was always sensitive and shy. During this period she was given instruction along artistic lines and the father, who was a poorly paid civil servant, made considerable sacrifice to insure further education along these lines. She fears that he had great ambitions for her and according to the patient's version, she supposedly showed some promise. The patient states that she always felt unworthy of these extra attentions and always had feelings that she should do something to make up to her father for the loss of her mother. During one of these visits to their home by the members of the religious sect, which the patient later joined, she persuaded her father, as well as the sisters, to allow her to come to America with them and join the order. The father opposed this because of the patient's youth, feeling she was too young to arrive at such a decision. The patient, however, overcame these arguments with persuasion and tears and her father finally gave his consent. The patient was 15 years old at the time. She states she was rather disappointed in her first residence in her order. She said she was placed in the presence of a rather harsh, irritable elder member who proceeded to lecture the novitiates in a very harsh tone of voice. She also early detected some spirit of competition and jealousy between the other members who were indoctrinating them with their rules. She also noted a great spirit of resentment among some of those assigned to do the menial tasks. The patient stated that she considered all of these things part of the life that they were supposed to lead but she did not see how people devoted to that type of life could have room for petty jealousies and competition. There were many lectures concerning the rejection or giving up of all worldly things and all things of the flesh. The patient found herself in great conflict because of frequent sexual phantasies she was having at that time. She began to regard these phantasies as being sinful and their recurrence as evidence that she was not worthy of the life that she was about to undertake. She considered that she was sacrificing many things for this life and felt very badly that she was not measuring up to her concept of what one should do in that situation. She states she would frequently get up in the middle of the night and go to the altar to pray for strength to carry on and to pray that such evil thoughts be banished from her mind.

The patient completed her basic training in the order and was accepted as a full fledged member. She was assigned to teaching art, in which she had considerable talent. She continued, however, to have conflicts over the life she was leading. She continued to notice the competition and irrascibility of some of the older members of the group. She was also very much hurt when one of the younger members of the group ran away from the order and subsequently became illegitimately pregnant. She noted that she was somewhat attracted to a young clergyman who would come to say mass for the sisters. She regarded these ideas with mingled pleasure and horror and felt that she was again not measuring up to the requirements of the life she was supposed to be leading. As she grew older and her responsibilities in the order increased, her resentment toward the attitude of some of the others increased. She began to feel that she had been cheated out of her life and that she had been led to believe that the people within that group were perfect, and actually they all seemed very human. She began to regret somewhat that she was not going to be able to have a home and family and that the perfect peaceful life she had thought she was gaining by this sacrifice had proved to be a life made up in part by petty jealousies and bickering. It is interesting that the patient concentrated on this particular part of her work and entirely neglected the fact that she, as well as the other members of her order, were engaged in a very active teaching program and they were also engaged in a very active hospital program throughout the country. The patient felt that because some of the supervisors in the various hospitals and schools to which she was assigned had proved to be a little bit irritable, a little bit demanding, and at times a little bit ambitious, their work was of no value. The patient also became very much attached to a young physician in one of the hospitals in which she was working.

Her first illness came when the convent in which she was living caught fire. The patient and some of the other sisters were rushing out of the place rapidly when the patient slipped and fractured her wrist. She was taken to the hospital for repair, but this resulted in some fusion of the right wrist joint and the patient was unable to carry on her artistic work after this. For this reason, and because of jealousy between herself and another sister in the school, the patient asked for a transfer to the order's nursing service. She was assigned to the hospital in which she'd been treated and was quite happy there running a children's ward. She felt ill-prepared for this work, however, and was greatly concerned lest the small children of mixed sexes engage in improper activities of a sexual sort. She also became rather fond of one of the young doctors on the ward and felt that this was a terrible sin. In this setting the patient developed the purpura mentioned in the original history. This eventuated in a series of operations. While under therapy the patient began to realize that the operations were carried out as attention-getting devices, and she also began to realize that there was at least some sexual symbolization in her repeated laparotomies, and too she began to appreciate that she received a certain amount of pleasure from her daily contacts with the physicians, even though the contact was that of a doctor-patient relationship. The patient began to look upon her symptoms as her solution and form of escape from what had become an intolerable situation in terms of conflict between her own concept of what life in the convent would be and what life in the convent was in fact amounting to.

During the interviews, emphasis was placed by the physician on the constructive part of the life she was leading and the patient was advised to face her sexual urges and to recognize them as being just that and to further recognize that this was a part of the things that she was supposed to give up. It was pointed out that one could give things up consciously as well as unconsciously and probably with an equal amount of propriety so far as the religion of her particular group was concerned. She was advised to discuss the more technical religious aspects of it with a priest who was visiting her in the hospital, and fortunately he seemed to verify the physician's opinion to a sufficient extent to reassure the patient. At the time of discharge, the patient still felt that she wanted to remain in her order and felt she had a much more adult attitude toward the meanings and sacrifices of a life of service within her group. She was able to be up and around, the swelling in her foot had gone down but she still limped somewhat due to shortening of the tendo achillis from prolonged disuse. The patient has not been seen personally since her discharge, but writes to us about twice yearly and reports that she is able to work and carry on within her group. It is quite probable that there are many more factors in this case that were not brought out, but it is believed that the patient received sufficient insight to be able to carry on her work.

The above case is an example of the so-called Autonomic Type of Conversion Hysteria. There are various other symptomatic groups, but the psychopathology in each instance follows the same principles.

The next case is an example of hysterical amnesia of recent onset. The patient was brought to the hospital with a history of having had several attacks of amnesia. During the last one the patient awakened in a strange hotel room at 1:30 in the morning and found that she did not have any recognition of where she might be. She looked out the window and saw a totally strange town below her. She looked at the telephone directory and found that she was in a city that she had not heard of before and had no idea as to where it might be in relation to her home. She called some friends long distance in her home town and was relieved to find that she was only approximately 80 miles from home. The clerk in the hotel told her she had come in by bus and had gotten off there and checked into the room. He had thought she might be ill as she got off of the bus in the rather out of the way town and was without luggage. She had no recollection of what she had done since about 6:00 P.M. on the same evening on which she awakened in the hotel. The last recollection was of being rather tired and of lying back on her bed in her room. The other episodes had all been equally well circumscribed but the others had been shorter, the longest being approximately two hours in duration. In some of these episodes the patient had "awakened" in the railroad station of her city and in others she had awakened either at the bus station or walking up the street. The first of the episodes, which had been a very short one, occurred when the patient was in her room on the day she had received the notice of a final divorce from her husband who was overseas. She states that she recalls walking up and down her room, stating, "You are single and you don't like it." The next thing she knew she was completely dressed in different clothing and was walking out the sidewalk in front of the apartment house in which she lived. This frightened her very much. The other episodes were similar to this.

Patient was placed in a hypnotic sleep and in successive hypnotic interviews the events occurring during each of these episodes was accurately recalled. The episodes fell into two categories. In some of them she would have a feeling that she must go to the railroad station to meet the train on which her husband would be coming home. She would "come to" in the waiting room of the station. On the others she would have the idea that it was necessary for her to leave her home town and friends, to "get away" and start life anew. She felt people might look down upon her and pity her because someone had taken her husband and this idea was a tremendous blow to her ego. She felt that being neglected and rejected was impossible and she did not feel she could live with the idea. During the amnesic episodes the patient would get to the bus station to take a bus to get out of town but only on the one occasion was there a bus available when she got there. On other occasions there would be no bus and the patient would turn and start walking away and "wake up." Prior to the onset of the present difficulty the patient had always been a fairly well-organized self-sufficient person and was holding a very responsible position at the time these episodes occurred. She and her husband had been happily married three months prior to his going overseas. He had been overseas approximately one year when he became enamoured of a young lady in England and decided to divorce the patient and marry this girl. Patient was somewhat opposed to this, being fond of her husband, but finally gave in to his request for a divorce. It was following the receipt of these first divorce papers that the first amnesic episode occurred. Therapy in this case was carried out in hypnotic trances, principally because the patient was an excellent hypnotic subject and the trances could be induced very rapidly and easily. During the interviews the nature of the patient's conflict was discussed at some length and the fact that she had suffered a blow to her ego was of unusually great importance in terms of her great desire for love and affection, and because of her desire to assume a place in the community as an independent person. It developed that the patient's mother is a very dynamic, self-sufficient woman of whom the patient is extremely fond. Her only difficulty with her mother is the fact that the mother continues to treat her as a little girl and the patient was quite anxious to establish a home of her own. The episode in which the patient took a bus out of town had been preceded by an interview with her mother in which the mother had attempted to rearrange her life for her by advising her to get out more with people of her own age and give up her circle of older and more intellectual friends. Patient's father died several years previously and she very much missed his affection and place in the family. She states that she had largely given up her own personality and attempted to devote herself to being a good wife to her husband, that she had almost completely given up her own individuality to him. She states that she had matured somewhat from the affair in that she was now aware of the depths of affection of which she was capable and that as she began to discuss the dynamics and get a proper slant on them that she could see that while the episode was unfortunate nothing further was to be gained by attempting to dramatize her feelings toward him. She stated that she could see that there probably would be sufficient change in both of them that they might not be compatible even if he were to return to her. She was able to look upon him as someone she was fond of but no longer dependent upon for love and affection. It was felt that the patient had matured considerably by this experience and it was felt that she had grown sufficiently in ego potentialities to be able to carry on without further episodes. Therefore, no further probing was done into the deeper mechanisms behind her hysterical syndrome. This case is an excellent example of a hysterical amnesic episode and shows one method in which these can be successfully handled.

A patient in which more details of the psychopathology were analyzed is presented by Freud in Volume III, in the case usually referred to as "Dora," but actually entitled "An Analysis of a Case of Hysteria." Students interested in following details of the psychopathology of the subject are urged to read this medical classic.

C. PSYCHASTHENIAS. The Psychasthenias consist of two types of reaction, frequently mixed. The obsessive reactions are characterized by recurring ideas which the patient recognizes as being absurd but which continue to recur and annoy him nonetheless. The compulsive reactions are similar except the patient has recurring impulses to carry out certain motor acts. The patient recognizes these acts as being absurd and unnecessary, and yet if he fails to carry them out, he feels anxious and uncomfortable. Many patients have a mixture of both obsessive and compulsive symptoms. These symptoms occur in individuals of a certain type. They are thought to represent a definite constitutional pattern, although there is some doubt about this. As a rule, these persons are rather rigid, meticulous, orderly individuals of superior intellectual capacities. There is usually a history that they have been persons who have always conformed well to the religious and moral code of their group and are usually recognized as being dependable and conscientious. Very frequently, they are very insecure and unsure of themselves, but they keep these traits well hidden from their friends and family. It is quite common in these patients to find that they are superstitious and often perplexed by great doubts and indecision. To make definite, clearcut decisions is very hard for persons of the so-called obsessive-compulsive character. The essential psychopathology is that of a protective device, the patient using his ideas or his compulsive acts as a substitute for some unconscious basic urge, which to him is unacceptable. The original pathologic material may be completely or incompletely repressed, but the patient makes a complete divorcement so far as affect or connection between the compulsive idea and act and the original material is concerned. This differs from Hysteria, in which the pathologic material is completely repressed and the affects displayed are converted into some other type of idea or activity which is more acceptable. Thus, the obsessive-compulsive may be thought of as a person who lacks the power to bring the original material completely out of consciousness. His obsessive-compulsive activity is a substitutive and symbolic method of carrying out the original impulse and at the same time may be a form of expiation for the guilt feeling connected with the original idea. In contrast to the hysteric, he is usually extremely uncomfortable, has much anxiety, and is anxious for relief from his illness.

Obsessive-compulsive symptoms are basically the patient's solution to frustrations and guilt feelings concerning the genital strivings encountered in the oedipal situation. It is felt that the patient develops guilt feelings with some anxiety in this situation, and regresses to an earlier stage of emotional development. Obsessive states are distinguished from hysteria by the fact that the regression is to the "anal-sadistic" phase of sexual development (see Chapter 1). It is believed that the regression to this phase may be conditioned by unusual gratifications or unusual frustrations brought about by the mother or nursemaid placing great attention on the bowel function, the excessive use of cathartics, enemas, suppositories, etc. In other cases these tendencies may be produced when the "anal phase" of instinctual development is associated with an unusually strong sense of security in the love and affection of the parents. In the process of the regression to the anal-sadistic phase, the patient further protects himself (ego defense) by isolation of the emotions from the originally feared object and invests the obsessive symptoms with an unusual amount of emotional energy and thus makes them suitable objects for the relief of his tension or for expiating his feelings of guilt. For further details concerning the psychopathology of these cases, the student is referred to the abundant literature, principally of the psychoanalytic school, on this subject. The following case is a fairly typical one of an obsessive-compulsive individual, associated with great anxiety, in which the basic mechanism was worked out over a prolonged period of time with complete relief of symptoms.

The patient was a 21-year-old white male medical student, who was referred because of severe attacks of anxiety. He had thought that his anxiety was due to the fact that he was suffering from heart disease and he had consulted the referring physician for an electrocardiogram. Discussing his attacks of anxiety with the patient, it was discovered that the attacks were periodic and were always associated with the idea that he would be struck dead if he did not get up and rush from the classroom or from the examination room. The patient would refrain from carrying out these impulses, thus avoiding embarrassment due to the questions of his instructors and classmates and this inhibition of the compulsion would precipitate almost panic-like feelings with the recurrence of anxiety symptoms, tachycardia, shortness of breath, and sweating. The patient revealed that at other times he had similar feelings, and he had worked out through the years an elaborate system of ritual which would allay and avoid the attacks of anxiety. He would be walking down the street and the idea would occur to him that he was to be struck dead. He felt that a wrathful god was going to strike him dead, although he was not altogether clear as to the reason. The idea would occur to him, "If I don't say the Lord's Prayer 48 times, I'll be struck dead." He was also annoyed during his examinations by the thought that he must answer the questions improperly or he would be struck dead. Naturally, this particular idea caused the patient a great deal of difficulty. Sometimes he was unsure of the answer and was not too certain as to whether or not he was answering it correctly or incorrectly. Other times, other parts of the examination were so difficult that the patient was not sure that he could answer this particular question incorrectly and still pass the quiz. He would then hit upon the subterfuge of promising God that he would answer the question properly. This, of course, was in some conflict with the idea that he would be struck dead by God if he did not answer it improperly and he would frequently get so anxious and bound up that he would be unable to complete the examination and would have to rush from the classroom. He was able to stay in school as a successful student only by virtue of the fact that he was of superior intellectual capacity. Needless to say, his scholastic record was of a very mediocre sort at the time he was first seen. When his ideas occurred outside of the classroom, the patient managed to handle them fairly successfully. He would sneak into an unoccupied church and repeat the prayers in order to relieve himself of symptoms. At times when he would start up one set of steps in the hospital, and the idea would occur to him that he would be struck dead if he went up those steps, he could use another flight of steps by making some excuse to his fellow classmates about picking up a book or something of the sort.

The patient was also having some difficulty in adjusting to his social life. He felt a desire to go out with young ladies, but when in the presence of a young lady he had a tremendous fear that he would get sick at his stomach. The patient had considerable sex drive, which he expressed in masturbation. The masturbation was frequently carried out while looking at pictures of females in books. The patient had noted that if he turned to a picture of an attractive female that he was unable to get a satisfactory erection during masturbation. He found that if he turned to a picture of a rather homely female, he was more successful. Further elucidation of this symptom revealed the fact that the patient would originally be quite aroused by the picture of the attractive female, but after contemplating it for a time he would note that it had some resemblance to his mother. This invariably resulted in the loss of the reaction and a feeling of being nauseated. It also developed that this was the basis for his uncomfortable feeling in the presence of attractive young girls. He would at first be attracted to them but after forming an acquaintance with them, the thought would suddenly occur to him that they resembled his mother and then the above-mentioned symptom would develop. He would fear that he was going to vomit and at times there would be actual nausea, although at no time had he ever really vomited. The patient felt that the above symptoms were evidence that he was about to develop schizophrenia and he had carefully refrained from mentioning them to his friends and family. He had an elaborate set of rituals and subterfuges to prevent his classmates from discovering these ideas. He was looked upon by his classmates as rather unstable and antisocial. None of them had any suspicion as to the extent of the patient's ritualistic behavior. The following material was produced by the patient in a series of interviews which were carried on twice weekly over a period of approximately two years. During this time the patient continued to carry on full time work as a medical student and succeeded in obtaining his medical degree. It is interesting that during his latter years in school, the patient improved scholastically. It is also interesting to note that shortly after the conclusions of the treatment he married a very attractive young girl and the marriage has been quite successful. However, his case has been followed for only two years.

The patient is the only child of an intelligent couple, the father being a social worker and the mother an educated woman who has not worked outside of the home. The mother is a very tense and neurotic individual given to much complaint about a great variety of physical symptoms. The grandmother lives in the home and she too complains about a whole series of somatic symptoms. The patient's recollection of the family meals are that they were largely discussions of the various aches and pains of the family and the latest diagnosis made by their current family physician. The patient stated that early in life he had noted that he was shy, timid and fearful. In childhood the fears took the form of fearing his father's death. The father was frequently out of town and would often make his trips by car. The patient states that he would often become very anxious and panicky lest his father were killed. He used to dream up all types of horrible accidents, assaults, and kidnaping with his father as the victim. He would usually become extremely tense and anxious and would weep hysterically and run to his mother for comfort. He states he believes that at least some of these ideas were engendered by the mother, who had similar fears. If his father was a few moments late for a meal or a few moments late for an appointment, the mother would become panicky, start calling the police, the hospitals, and all of the father's friends to see if he had met with some accident. The patient looked upon his father as a very patient man for having put up with all this for many years. He also suspects that his father may have kept his position, which necessitated much travel, in order to stay away from home. He states that at one time his mother's symptoms and fears for the father's welfare became so severe that he and his mother traveled with the father about the state for more than a year. Originally, the obsessive ideas were filled with these recurring phantasies about his father's death. The compulsive activity was all in terms of assuring the father's safe return home. In later years, the content of the father's death was gradually replaced by fear of his own death, although he stated at the time he came for treatment that he continued to worry "some" lest his father die. The patient thought such ideas were peculiar since his father was always a very healthy person and it was his mother who was chronically ill. The patient felt that his interest in medicine was probably due to the fact that he believed it would be necessary for him to care for his mother and he thought that his knowledge of medicine would enable him to understand her illnesses as well as to care for her financially.

When he came for treatment, he was not sure of his continued interest in medicine, but thought he would carry on during the treatment period. The patient could recall many acts of hostility toward his father, which in earlier life took the form of phantasy. He was able to recall during the interviews the fact that while his father was away from home on his trips, the patient would frequently sleep in the mother's bed. He stated that this was very comfortable and warm and that he enjoyed it very much. He states that he can recall having had ideas that the father would not return and he would be able to continue to sleep with the mother each night. He felt that these ideas were not nice ones and that they had not been recalled for many years. He also recalls having become very angry with his father for being late on returning home on a day when he had planned to take the patient on an excursion. The patient states that at this time he remembers definitely wishing that his father were dead. In later life his aggression toward his father was manifest in many little ways. The patient states that the most common one was to grab hold of his father in front of the mother and throw his arms around him and hold him tight. The patient was considerably bigger than his father and he states that he was very fond of doing this in front of the mother. In considering it, he stated that he believed that this humiliated his father to a considerable extent and he supposed that this was why he did it. The patient was able to make a clear relationship between these original ideas directed toward his father and his feelings of guilt concerning them and his great fear lest something happen to the father.

In later life, these fears were referred to himself and were fears lest something happen to him. This patient interpreted these fears as his own recognition of his need for punishment and his desire to escape it by the various rituals mentioned above. His fears in the presence of girls were established as definite identification between the girls and his mother and his guilt feelings concerning a sexual drive directed toward the mother's figure as represented by the younger girls or by the attractive magazine illustrations used in his masturbation phantasies. With the working out of this material, and the development of a more realistic attitude toward his sex drives, the patient's obsessive ideas disappeared almost entirely. He would occasionally have the desire to go up a particular set of stairs and states that occasionally the idea would occur that he might be struck dead. He was able, however, to recognize the origin of these ideas and not carry them out. He seemed very much interested in having dates and going out with attractive young ladies. He fell in love with a young woman, and after a rather ardent courtship married her. As has been recorded, the marriage has been of about two years' duration and according to both the patient and his wife they've gotten along very well.

A follow-up note on this case seems indicated with this edition.

Approximately five years have now passed since the conclusion of treatment in this patient. During this period the patient's wife has had a serious illness with two recurrences. The patient tolerated these difficulties surprisingly well. With the acute phases of the wife's illness he developed some recurrences of his anxiety, and at times there were acute flare-ups of the obsessive thinking, but each time these subsided on rather superficial reassurance. The birth of a child and the beginning responsibilities of fatherhood, which coincided with experience in the military service produced an acute flare-up of anxiety attacks with many somatization reactions, but with practically no obsessive features. These symptoms also subsided with a simple discussion of the situational response. Completion of his military service and returning to his training program contributed some to the improvement, and the further development of the child contributed a great deal. Approximately 1½ years before this writing the patient's father had a C.V.A. while at work. The patient handled this amazingly well with little or no recurrence of his symptoms. The patient completed his training, went into clinical work in the community and shortly after opening an office was stricken with a very acute illness, which nearly resulted in his death. This illness left some orthopedic involvement which handicapped him in his work. In spite of this he has managed to carry on surprisingly well. Since recovery from the acute illness the patient has entered into a personal analysis for training and therapeutic purposes, but the obsessive symptoms originally present have not recurred and the principal symptoms present are anxiety, insecurity, and refusal to accept the orthopedic involvement which he has.

Not all patients respond so readily to treatment. The treatment is usually prolonged and sometimes the results are not as gratifying as they were in the above-mentioned case. In some cases, however, relatively brief reassurance therapy will give these patients marked symptomatic relief and no further treatment seems indicated or necessary. The following case is a good example of patients managed in this latter way.

The patient is a very attractive 30-year-old white female who came to the hospital complaining that she was losing her mind. When questioned, she stated that she had an intense compulsion to choke her child. She states that she recognized the absurdity of the idea, but at times the compulsion was so strong that she would find it necessary to go into the nursery and touch the child in order to assure herself that she wouldn't do it. When she did this, she always felt better. At times, however, she was afraid to go to the nursery and she had on a few occasions summoned the maid to stay with the child and had gone to the movies in order to be away from her child because of the strong impulse to choke it. She stated that she had planned for years to have the child and that she and her husband were both very fond of it and that she therefore must be losing her mind to have such ideas. She was so worried about it that she had become mildly depressed, quite anxious, and she was having difficulty in sleeping. The patient was a very neat, carefully dressed, attractive and meticulous person. She described herself as being a spotless housekeeper and having a very rigid moral code and of being a very conscientious, worrisome person. She postponed having her child for several years of marriage until she felt that they were financially and socially ready to take on this obligation. She states there was some indecision in deciding to have it, as to the time when they would be ready. She described herself as well-adjusted and was apparently quite happily married. Her husband described her as being a little overneat, a little overrigid, and a little overconscientious, but said that they got along very well in spite of this and he was unable to understand why his wife should have such absurd ideas. Because this patient lived in an adjacent city and frequent interviews were impractical, it was decided to try a short desensitizing form of treatment.

The patient was told flatly and confidently that she would not carry out the act. She was also told positively that she was not losing her mind. Her symptoms were explained as substitutive ideas and she was told she was using the present one as a form of punishing herself and also as a way of avoiding having the original idea. During her visits to the office, the patient met another individual who was suffering from obsessive symptoms of a similar nature, and this came to make her feel more confident that her ideas were not peculiar and not evidence of a psychosis. She was also presented to a class and when she told them of her symptoms and told them how absurd she considered them, the students all laughed. The patient was greatly relieved by this because she felt that they did not consider her symptoms as serious. The patient asked some questions about what the original idea or wish might have been and she was assured that we did not know and we could not tell her unless prolonged psychotherapy was undertaken. She was assured that the idea had probably occurred at some time previously and that it probably was of no importance in her present environment and her present status in life. She was able to accept these statements without any qualifications. During the period of the three or four interviews with her, her anxiety subsided and she began to sleep well. At this encouraging sign the patient was allowed to go home. She was seen approximately four months later and stated that she was no longer suffering from her illness. A careful inquiry revealed the fact that the idea or desire to choke her child would occasionally recur, but she now accepted it as being ridiculous. She would at times wonder what idea she was substituting for this one, but stated that she no longer got excited or anxious about it, that it didn't bother her, and as a result the idea soon disappeared. She was continuing to be actively engaged in her home and her community life. This type of management cannot be said to be curative or "uncovering" in nature. On the other hand, it is practical and is worthy of trial in most patients in whom any prolonged investigative type of therapy would be a great economic burden. It is quite likely that this patient will in the future have further obsessive symptoms which may demand more detailed treatment. It is best to regard such cases as having been given symptomatic relief and the relief given is analogous to the so-called symptomatic cures sometimes brought about by suggestion in the cases of hysteria. While complete resolution of the neurotic structure is desirable, the student must remember that in some patients such complete resolution is impractical and in others impossible in terms of either time, economic or geographic limitations. The use of so-called symptomatic or palliative therapy is justified, providing one recognizes the limitations of what can be accomplished.

To illustrate the point of view, that the compulsive ideas are in reality fragmentary substitutes for other ideas, which are even more distasteful to a consciousness than the fears and compulsions themselves, the following interesting case, already mentioned, is quoted in abstract from Ross.

The patient, a man, 49 years old, was obsessed by the number 13. If the word was uttered he felt a "shock" which was followed by a period of misery. He made such strenuous efforts to avoid any reference to "13" that even ordinary everyday activities were seriously hindered.

"Everybody seemed to be saying thirteen at him in some way or another; thus they would say, 'Oh, Good morning' and with, as it seemed to him, a most perverse ingenuity, they would later in the day say only "Good afternoon' (thirteen letters in each). There were many compulsive acts, for instance, the patient never walked in Oxford Circus because of a sign containing the name 'Peter Robinson' which was displayed there. He stayed in bed on the thirteenth day of the month and on the twenty-seventh (thirteen letters). He always hopped over the thirteenth step of a stairway. He had to count the letters in short phrases, words in sentences, his steps, number of streets passed, etc. He was perfectly willing to agree that the whole affair was illogical and ridiculous but this did not solve the problem.

"His obsession had been present about eighteen months when he came under observation. Just before it arose, he had been enlisted, late in the war, and had been living in barracks. He hated coarseness of any kind. He would have liked to have read the poems of Milton, and to have played the music of Bach and Handel to his fellow soldiers; they would listen to neither, and he himself was compelled to hear their ribald stories and somewhat unrefined songs. The obsession appeared, and he was soon removed to the hospital and discharged from the army; but he could not return to his civilian work on account of his illness. He said that he had had a similar attack soon after he married, which had lasted two or three years. He had had another when he was about fourteen years old. There had been none previous to that.

"At that time of his life he had lived in the country with his grandmother, who kept a single servant. This girl had believed a great deal in the bad luck which attends the number thirteen, not to any absurd degree as he ultimately did, but sufficiently to impress him. So far he related this history easily; it seemed to him that it was enough to account for everything; at a susceptible age, he had been thrown much into the company of some one who had impressed this superstition on him. He had been greatly upset in the barracks room, and the old discomfort had been revived. He had nothing more to say, and no further memories to give about the matter. He was, however, pressed to think a little more about it, and to explain, if possible, why this person had been able to influence him in so abnormal a degree. He then said that it was perhaps because he loved her, and she him. He became troubled and confused, and on being further pressed, related how they had had sexual relations for about two years. After this he had gone to a boarding school, where he had come under strong religious influences, and where he had suppressed the whole of the incidents related above. He had, he said, never consciously remembered them till they had flashed on his mind at this interview.

"His marriage had been unfortunate. He had had connection with his wife before marriage, and had married her from a sense of duty rather than from love. He stated that he found later that she had not been a virgin when he met her, and this tended to augment his feeling that he had done a rather fine thing in marrying her. With this feeling of having done well, there came the distressing obsession about the number thirteen.

"Again, in the barracks room the coarseness of his fellows made him feel how much better he was than they; and again this was accompanied by the obsession. 'We are now in a position to understand the genesis of the symptom.' The patient was a man with a highly developed superiority feeling. In this type of individual the ability to successfully continue in the battle of life has been founded on the conception that they are better than other people.

"At school this man had learned to admire very lofty ideals and to imagine, because he did so, that he possessed them in a high degree. He really did, but inasmuch as this was true, it shocked and pained him to think that there might also exist in the same mind, and that his own, ideas and practices of a very different kind. He fell from his high ideals before his marriage, but quickly restored himself by doing the right thing. Then, unfortunately, he began to despise his wife. Here his superiority feeling played him false.

"His own early experience should have prevented him from thinking ill of her; if she was not a virgin, neither was he. He was not in the least a man who considered that there was one law for man and another for women; men, in his estimation, ought to be pure. That was his thesis. He could maintain his attitude of superiority only so long as he did not remember his own past history. It was, however, almost impossible that nothing of this past should come into consciousness, and therefore a fragment eluded the censor, and number thirteen, and brought about an emotional reaction through the operation of the conditional reflex.

"The same train of events happened in the army, and continued after discharge." (Ross).

D. NEURASTHENIA. The official classification in the majority of textbooks of psychiatry continue the old classification of Neurasthenia. This term is used to describe patients whose principal complaint is one of chronic fatigue. Typically, these individuals drag around on a low level of social adjustment, reacting to any increased physical or emotional effort or demand with palpitations, headaches, sinking spells, etc. Typically, this fatigability is not associated with pleasurable activities, such as discussing their symptoms, going for rides, going to see doctors, etc., but is selective in its nature, prohibiting the patient from carrying out gainful pursuits and unpleasant tasks. Weir Mitchell originally felt that these cases were due to exhaustion or debilitation of the structure of the nerves themselves and the cases were treated with prolonged bed rest. Freud originally taught that they were due to faulty expression of the sexual impulse and particularly due to chronic masturbation, coitus interruptus, and similar unsatisfactory and incomplete methods of achieving sexual satisfaction. It is true that a great many of these patients do show faulty sexual expression, but increasing experience would indicate that the faulty sexual expression is but another symptom of a deep-seated neurosis, rather than the cause of the chronic fatigue state. Properly considered, the cases of neurasthenia undoubtedly belong in various categories. Some seem to be types of anxiety hysteria, and other anxiety reactions, many would more properly be classified as reactive depression, and some probably as beginning states of mild depressive psychoses in the so-called simple retardation phase. A neurasthenic reaction may appear early in paresis. In the opinion of the authors, the term neurasthenia does not have much to recommend its inclusion in further revisions of classification outline, although it has a certain amount of symptomatic value. It is believed that more careful consideration of cases showing the above-mentioned symptom complex will place many of them in their more proper category according to psychopathology and thus improve the efficiency with which they are managed. Neurasthenia and some of the anxiety states appear after the patient has had a long battle with self. Usually they are not recognized until they are well developed, and then the problems that occupy the patient are not the real ones but substitutions usually in the shape of bodily sensations due to functional disorder.

How does this come about? If a laboratory animal is frightened or angered certain physiologic disturbances are produced. In the cat, for instance, one may see such gross phenomena as the arching of the back, hair standing on end, dilated pupils, spitting, etc. Much more is going on inside the body. The cardiovascular apparatus is energized into much greater activity, and the blood pressure is raised. This increases the metabolism of the muscles. The increased pressure not only supplies blood to the muscles and organs more effectively, but also sends a larger supply to the brain where quick decisions must be made. Certain of the endocrine glands, perhaps particularly the adrenals participate in the production of increased blood activity, and pressure, and even shorten the clotting time of the blood. The liver discharges more sugar into the blood, so that the muscles have sufficient fuel for the mobilization of their energy. Respiration is more rapid. Stomach and intestinal movements are at a minimum. In a few words the net result is an adequate physical preparation for fight or flight with a mobilization of those parts from which there will be a strong demand for work, as, for instance, the muscles and a cessation of functional activity in those viscera like the intestines, the activity of which would only hinder and impede fight or flight.

It may be objected that, after all, human beings are not cats and there are no "fierce dogs" in our world. But the objection is not valid. Human beings are affected by pain, fear, anger and other emotions just as the cat is; sometimes we are subjected to the same physical frights, and the same reflexes described in the cat are initiated. Now and then, instead of quieting down after the fright is over, the reflexes remain. Hyperthyroidism, a condition in which the heart persistently beats very rapidly, the eyes become very prominent, the hands become shaky, and the patient feels continuously nervous and easily startled, may arise in this way. These patients have the appearance of frozen-fright, or graven fear, i.e. they have always the facial expression of fear, although they may not feel afraid. We recall two cases in which such states originated, one from the terrifying experience of a shipwreck and rescue at sea, and the other from a horrible automobile accident.

We had a patient who was with her husband, a naval officer, stationed at Haiti during the uprising of the natives. One day while she was in the interior of the island, she walked into the living room and found a poisonous reptile coiled under the table. Later in the day she opened a closet and a tarantula started out toward her. That same evening there was a shooting affray in front of the house. Immediately, she stiffened into a state of "frozen fear." She was brought back to the United States and for six months was mute, did not eat, had to be fed through a tube, and, when placed upon her feet, she would collapse to the floor as though her knees were made of water.

It is true that most of the shocks we encounter in the present stage of civilization are not as physical, acute or dramatic as the fright of the cat; but the emotions engendered in us are, if anything, the more devastating. Human beings stand a single mental shock relatively well, even if it is severe, as for instance, the drowning of an only son. It is the series of shocks or a long continued single emotional strain like worry or apprehension that finally breaks us. Such tiring and destructive emotional stress may be due to a prolonged struggle with difficulties and problems which we are not meeting in a straightforward manner. Long drawn out fear, anger, shame, resentment, or other intense emotion, may produce an increased heart rate, the alterations in the activity of the gastrointestinal functions, just as fear did in the instance of the cat. If these reflexes become established, they tend to keep going even after the original situation has disappeared. They are like the toy that must go until the spring unwinds. Human beings, however, may be wound up as fast as they are unwound—that is, the situation remains. Thus, anxiety, states of intense fear, worry, agitation, and loss of control may dominate almost every waking hour.

Is it thinkable that such situations can arise in the midst of the culture and refinement and material ease and protection of modern life? Not only conceivable but exceedingly common! Here are a few taken at random from our practice. Think of the fear of the woman who has reason to believe that her husband is no longer in love with her and may at any time leave her for another, and this at an age when she is no longer able to shift for herself. Or the young girl who is carrying on secretly a questionable love affair. Or the worry of parents at the degradation of a son or daughter. Or the state of mind of the wife who is carrying on an illicit love relationship. Or the haunting fear of poverty. Or think of the man, getting on in years and with a large family to support, who lives in fear of being displaced by a newcomer in the business organization. These and many similar situations are anxiety producing. In this type of reaction the individual is still fighting and aggressive. His symptoms are part of his endeavor to overcome the difficulty. If the physiologic state, or the reflexes and sensations continue long after the inciting conditions exist, the patient loses his aggressive attitude, and finds his world consisting mainly of these residual sensations.

E. HYPOCHONDRIASIS. This term is also included in the older classifications of the psychoneuroses. It is used to designate those patients who are greatly preoccupied with symptoms referable to the abdominal cavity and organs of the abdomen and pelvis. These patients typically have many aches and complaints referable to the gastrointestinal, urinary, or pelvic organs. Such patients frequently can describe the nature, consistency, mass, odor, color, etc. of their bowel movements for the past several weeks. Some of them actually keep charts on this information. The patients take obvious pleasure in describing their symptoms and are frequently addicted to daily douching, daily enemas, or other forms of mechanical manipulations of the abdominal or pelvic viscera. It is obvious in most of these cases that the patient has invested the abdominal organs with considerable emotional charge and prolonged observation or treatment of one of these patients should convince the most skeptical physician that the patient's pleasure from consideration of his organ functions is closely akin to the sexual pleasure other people obtain in a more normal way. While the term was originally intended to include those patients with complaints centering about the abdominal and pelvic organs, one also will see patients who have similar ideas centering about the nasal cavity and who get great pleasure out of spraying their noses, having their sinuses irrigated, or having their mouth and teeth manipulated. A study of these patients convinces one that they are more properly placed in the category of the hysterical reaction, as the interest in the viscera undoubtedly represents a displacement of emotions from an original object to the patient's own body, which for varying reasons are more acceptable to him. The following case is an example of how such preoccupation can take up the greater portion of an individual's life and greatly interfere with economic and social efficiency. It is also an example of how in some patients the resistances to understanding the origin and nature of their symptoms are so great that even prolonged attempts at psychotherapy are sometimes unsuccessful.

The patient is a 54-year-old professional man, who is holding a position of great responsibility and has been given a prolonged leave of absence in order that he might recover from his illness. He complained of tremendous abdominal distress. This distress took the form of cramping aches and pains, which were present in the morning and which could be relieved only by drinking a cup of hot tea before rising from bed and then after resting for several minutes, till the tea had its relaxing effect on his stomach. He would then go to the bathroom where he would take a warm enema and then to his bedroom, where he would lie on the bed with his feet propped up and somewhat separated on the headboard of the bed. After lying in this position for several minutes, he would return to the bathroom and evacuate the enema. After this, he was able to go downstairs and have his breakfast. This routine had been carried out for years and the patient had been able to do his work following this carefully outlined ritual. At times during the years his ritual had failed to give him sufficient relief, and as a result of summoning physicians he acquired two laparotomies, in one of which a portion of intestine was resected. None of these operations brought any relief and merely served to focus the patient's attention more rigidly upon his abdomen. The patient was otherwise a rigid, dynamic, hard-working individual who had been tremendously ambitious for himself and his family.

The history and development of the above symptoms was about as follows. The patient was the youngest son of a rather poor farmer's family. The two older brothers were lacking in ambition and seemed content to continue their life as tenant farmers. The patient at an early age developed a distaste for farming and began to have ambitions to study a profession. He states he was greatly stimulated in this ambition by his mother. He worked very hard, and according to his own story made the highest grades ever made in the small public school which he attended. He finished high school at the age of 17 and began to read law in the office of one of the local practitioners. He states that at the age of 19 he was ready to take the bar examinations, and one of the local judges removed the disability so that he would be eligible at that early age. He received his license to practice law at the age of 20. Shortly after this, he was appointed assistant city attorney in the small town in which he lived and later became district attorney. The patient worked extremely hard with his cases and states that he had very spectacular success in his practice. He ascribed this success to the fact that he worked very hard in preparing his cases. States he always read five times as much law as the other lawyers in any particular case and the patient would go into a very long and verbose description of the numerous cases in which he had been successful. He said that he would become very much aroused emotionally during the pleading of a case, and it would take him five or six days to recover from the emotional tension engendered by the pleading. He believed that much of his success was due to the fact that he could become so aroused emotionally. He served a term as a district judge at a very young age and was also quite successful at this according to his own account.

The patient states that he never made much money at any of these things, because they were always salaried positions. He states that he always liked to live well, but that he used to take care of his parents, his aunts, and his own children, and as a result he frequently became indebted. The patient states that his hard work and continual tension took much out of him, and in his younger days he would find it necessary to go home immediately after the trial and go to bed in order to rest and relax. He smoked a great deal in his younger days, but found that this stimulated him so much that he had to give it up. He also found it impossible to go out with the younger men and drink. Following his service as a judge, over a period of several years the patient went into practice and later joined the legal staff of a large oil company. He said he was very successful in his legal work with this company, and this was presumably true, inasmuch as they gave him a year's leave of absence with pay in order that he might regain his health and return to them. The patient states that he frequently tried cases involving many thousands of dollars and that he had lost very few of them. He brought numerous briefs to the office to show his physician how he had originated certain opinions in court, etc. In describing his health the patient states that throughout his life he was bothered with constipation, that he always had a pot belly, and was always conscious of his stomach and his back. He states he frequently was given "black draught." In spite of this, the patient continued to work very well. Approximately 15 years before he was seen by the physician, he had been in a situation of unusual stress. This was occasioned by the fact that he was working with an individual who was completely incompatible with him and one of his sons was having tremendous difficulties recovering from a ruptured appendix, and the patient was having his usual financial worries. In this setting, his symptoms became very much worse and this finally resulted in the first of his laparotomies. Since that time the patient has never felt entirely well. On two occasions he has had some type of spells while at work, which consisted of getting pale and falling over at his desk. In spite of this, he has continued to carry on with his work, but on a limited level of efficiency. Even so, however, he had been sufficiently productive that the company had kept him on.

During his early life the patient formed few emotional attachments to anyone. He finally met his wife and married her. During his preliminary history, the patient stated that they were completely compatible. During later interviews, however, it developed that the wife had always been sexually frigid and that the patient had actually not cared much for her, and had married her in order to have someone to prepare his meals and "sort of look after him." As the years went on, his wife developed many physical complaints of her own and finally took to alcohol as a solace. As the patient was neat and clean and rigidly self-disciplined, according to his own story, he looked upon his wife's alcoholism as a sign of weakness. This resulted in almost complete rejection of her so far as any affection was concerned, although she continued to live with him and care for him. As the years went on she became more impatient of his complaints and failed to give him as much attention as he felt he was entitled to. This also caused considerable stress in the family and the patient and his wife had not attempted sex relations in the past two years. The patient states that this was because it made him weak and because his wife was no longer attractive to him. The patient displaced most of his affection for his wife onto the three children and one suspects also, upon his gastrointestinal tract. Attempts were made over a period of a year to get the patient to focus his interest and attention away from his physical complaints and onto the possible cause of these factors. Each time, however, he would become resentful and stated that he was not insane and that he was suffering from "constitutional inadequacy" and that therapy would be of no benefit. In spite of his attitude he would continue to come back for interviews, and we continued to be hopeful that his resistance might eventually give way in order that more deep-lying material could be uncovered. The patient seemed to receive some slight benefit from his interviews in terms of lessening of tension and concern over his abdominal complaints. He became thoroughly convinced that they were psychogenic in origin and he was willing to admit that concern over his wife and his financial status probably played some role, but no further progress was made. With this slight improvement the patient was able to go back to work where he continued to "carry on" at a very low level of efficiency, and where he continued to derive most of his recreation and pleasure from studying his gastrointestinal complaints and taking various medications, enemas, etc. It is obvious from perusal of the above history that this patient's case contains many elements of anxiety, many elements of almost an obsessive-compulsive character, and there may even be some elements of "constitutional inadequacy" according to the patient's own diagnosis. In spite of this, it was the physician's feeling that actually these represented a displacement of emotional drive from some original object to his gastrointestinal tract. The fact that nursing his guts could replace his normal feeling for his sexual partner is further evidence along this line.

F. The Anxiety State: simple anxiety reactions. In the anxiety state many patients have symptoms of uneasiness, apprehension, and a vague sense of impending doom or disaster. The patients often have symptoms of inner tension or tenseness of the G.I. tract, or stimulation of the sympatheticoadrenal system, accompanying the anxiety attacks.

In the typical case the anxiety remains unobjectified, and the patient states that he is fearful but doesn't know what he is afraid of. In other patients, who represent examples of anxiety hysteria, the anxiety becomes objectified and the patient becomes afraid of high places, has a fear of dying, has a fear of cancer, etc. Freud originally felt that the anxiety states were due to some toxic product secondary to incomplete orgasm during sex relations or other unsatisfactory modes of sexual pleasure. As mentioned under the term "Neurasthenia," it is our belief that in most of these instances the failure of sexual satisfaction is in itself a manifestation of a neurotic disorder and has the same origin as the anxiety, rather than being productive of the anxiety itself. There are, however, a few exceptions to this. In our opinion, these anxiety states are best divided into two groups. First, simple anxiety, and second, anxiety psychoneuroses. The first group, or the simple anxieties, correspond rather closely to Freud's anxiety states, but in our opinion are by no means always due to unsatisfactory sexual expression or incomplete orgasm. Our concept of the simple anxiety is that a person responds rather normally to some immediate environmental situation, but in such degree and for so long that definite changes in physiological function occur and symptoms are produced. It is true that among the patients reacting to immediate situations with anxiety there will be tremendous variations in the extent and type of symptomatology according to the past history and the capacity of the personality to handle acute stresses of the environment. In spite of this variation in past experiences, every person, even the most stable, has a point beyond which he cannot tolerate environmental stress without symptom development. One must not only seek to explain the difference in the personalities, but also must consider the anthropologic and genetic backgrounds. In spite of this great variation, one feels certain that everyone has a threshold at which point these objectified fears and anxieties will begin to express themselves with indefinite anxiety pains and bodily complaints. During the recent war we have seen many soldiers who have so responded to battle situations. Frequently, there was a definite psychosomatic clinical response to exhaustion and other physical strains and emotional stresses due to horrible experiences but often the symptoms quickly disappeared in normal, stable personalities. We also see many such patients in consultations and in the medical wards and the Out-Patient Clinic. These individuals in difficult situations begin to show an exaggerated response in the autonomic sphere. Having these sensations and ruminating about them, they decide that they are ill. A consultation with neighbors or a review of the family's medical history will often reveal the patient to have had symptoms similar to someone in the family who perhaps had some serious organic illness. The patient begins to fear that he is also ill and becomes increasingly concerned over his health, which adds to his burden of worry and increases his symptoms. His symptoms multiply. A consultation with the family physician or some specialist in an effort to reassure oneself often gives him or her a diagnosis of a mild anemia, or leakage of the heart, of malposition of the uterus, or some similar diagnosis. The doctor may give such information in honest error in an attempt to impress the patient with his own acumen, and also to increase his own confidence in handling a patient. The patient, now having the doctor's opinion to bolster his own belief that he is ill, begins to dwell upon his bodily functions to the exclusion of other interests. In our opinion, these persons are not, in the ordinary sense of the word, psychoneurotic. They are more properly considered as individuals who have responded to some environmental stress in a perfectly normal way, but who have failed to understand the body's response to environmental stress and have become concerned about this. This type of patient often responds completely to superficial reassurance and explanation of their symptoms. In our opinion, many such may be satisfactorily treated by the general practitioner and family physician without the assistance of the trained psychotherapist.

The following case is a rather typical example of the type of reaction we are describing. It will be noted that no attempt was made to discover or analyze the patient's deeper personality structure. The fact that the patient responded in the particular way that she did, the fact that she was of a particular type of disposition that she is, probably could have been explained by more deep probing into the patient's developmental history and emotional development. It is also true, however, that such procedure would have been very long and perhaps impossible in a person of her particular intellectual and social level. It is also true that either with or without her basic conflict, the patient had adjusted well until such time as she became ill with the present illness and therefore, the goal in therapy seemed to be to get rid of the present environmental stress so that the patient could carry on as before.

The obese 47-year-old wife of a tenant farmer entered John Sealy Hospital complaining of a "goiter." Inquiry revealed that she had had attacks of a choking sensation followed by feelings of suffocation, "fluttering" of the heart, weakness, and fear of death. The attacks were most severe in the evening and at night and were less severe when she was busy with her work during the day. The attacks started three months prior to admission and were of increasing severity, having become especially severe in the three weeks before admission. Physical and laboratory studies, including electrocardiogram, basal metabolic reading, and fluoroscopy of the upper gastrointestinal tract revealed no lesion which could explain her symptoms. The patient had been a placid, hard-working, poorly educated country woman, with three normal pregnancies; no previous operations or serious illness, and few interests outside her home and family. The first attack came while she was helping her husband push a light truck. The symptoms recurred the following day, and in describing them to a neighbor lady she was told that they "sounded like a goiter." After repeated attacks brought increasing concern she visited a physician, who tentatively concurred in her diagnosis and the attacks grew in severity, eventually making hospitalization necessary.

A resurvey of the history revealed the following data. The first attack came at a time when the patient was fearful that she was "losing her husband" because he was no longer affectionate toward her and the children, had not contacted her sexually with his accustomed regularity and was spending much time away from home. In fact, at the onset they were starting the truck so he could go to town for the evening. The patient felt that her whole married life and security were being threatened. Three weeks prior to admission she observed her husband, unknown to him, in the company of a younger and more attractive woman with whom she had good reason to believe he had spent the preceding night. At this time her symptoms became much worse, she consulted a physician and was finally sent into the hospital. In the interval between "getting the goods" on her husband and entry into the hospital they had reviewed his indiscretions in a few stormy sessions. He had promised to forego such pleasures in the future and had in fact resumed his previous affectionate behavior toward her and the children. The patient still felt troubled in "swallowing her pride" and was undecided as to the desirability of continuing as his wife. She recognized that thinking of her troubles always made her symptoms worse but she still believed she "had a choking goiter," and that her life was in jeopardy.

Treatment consisted in pointing out the coincidence of the onset of her marital troubles and the onset of her symptoms, reviewing the array of normal reports and physical findings, and explanation of her symptoms as due to anxiety with muscle tension and the various bodily sensations. With an understanding of the origin of her symptoms, they subsided, but she expressed more hostility toward her husband and would weep as she spoke of her marriage. After two or three letters in which he repeated his repentant attitude, and some talk by the physician on the desirability of giving him another chance before breaking up the home, her attitude improved rapidly, and she finally decided to return home and resume her former life. She has done well.

In many other patients, the anxiety will be on a deeper basis, due to some deep-lying and completely repressed material. While patients in this group will get some relief from an explanation of their worries, and the explanation of some of their somatic symptoms being due to autonomic stimulation, the original or basic anxiety will persist. The handling of these patients requires the services of a skilled psychotherapist. Even so, the explanation of some of the patient's symptoms to him, skillfully and carefully by the family physician, with avoidance of the use of the words "pretend" and "imagine," will do much to influence the patient's attitude toward his problem and to facilitate the work of the psychotherapist.

As a result of military psychiatric experiences, it seems likely that there will be a tendency to deal therapeutically more emphatically and intensively with those emotional experiences that are directly related to the symptomatology of the psychoneuroses. Naturally, the past of the patient, personally and even phylogenetically, should not be ruled out of consideration, but its use by the patient to continue a situation which precludes participation in everyday realities and activities should be energetically combated. The inner upheaval due to dynamic experiences which shaped the neurosis must be experienced by the patient, and the very fact that they are recent in the psyche and more readily accessible to the therapy should give them a larger and firmer leverage with which to shift the psychoneurosis into more favorable territory.

THE ANXIETY PSYCHONEUROSES. As mentioned above, in some patients the anxiety is apparently the result of deep-seated symbolic material. In many the anxiety assumes phobic proportions and is anxiety about something. This is so-called objectified anxiety. As mentioned above, the anxiety in these particular cases is on a neurotic basis. In other patients, however, the anxiety seems to be less well objectified and is present principally as a sense of impending fear, or disaster. In most instances, however, it is accompanied by some definite concern over somatic function, and in many instances by definite dysfunction in the somatic sphere. It is the general belief that the anxiety, as well as the accompanying somatic symptoms, are due to a mechanism of repression of the original conflict so far as content is concerned but with the anxiety remaining. The psychopathology is not essentially different from that seen in the hysterical psychoneuroses except that the anxiety is not completely converted into somatic symptoms. The following case is a good example of this particular type of reaction.

The patient is a 39-year-old white male, referred to the hospital by the family physician because of impotence. The family physician had had him carefully examined by a urologist and no somatic cause of the impotence could be discovered. Careful neurologic examination also revealed no evidence of organic or neurologic causation of his impotence. The patient, who was quite intelligent and well read, felt that the impotence was undoubtedly due to some type of emotional difficulty. In addition to the impotence, he complained of attacks of anxiety when he would feel as if he had to get away from whatever he was doing and get out in the open. He was extremely uncomfortable during these times, feeling as if something was hanging over him and as if he might explode. These attacks of anxiety had persisted intermittently and with varying degrees of severity since early childhood. The patient had also had some tachycardia and gastrointestinal symptoms, both of which he recognized as being due to the attacks of anxiety and always following these bursts of anxiety. He stated that he had originally felt somewhat concerned that there might be something wrong with his stomach or heart, but that the reassurance of the physician had satisfied him on this score and his reading of psychologic literature had tended to confirm this belief.

The history of the impotence was about as follows. Approximately one year before consulting the physician, the patient had been out with an attractive young woman for an evening of dancing. On the way home, they had stopped at a roadside lovers' spot and after a torrid scene of necking the patient had propositioned the girl. She had refused, but refused on the grounds that she did not care for that sort of thing in an automobile seat, and stated that her roommate would not be at home on the following day and invited the patient to visit her in her apartment. The patient stated that the whole thing was very exciting to him and the following day he called on the young lady at her apartment according to their previous plans. The patient states that they sat down together and after one short drink, the young lady stated, "Well, let's go to bed." The patient states they went to her room and disrobed, and then he found that he was completely unable to get an erection. He was extremely embarrassed by this. The young lady was somewhat put out, but understanding, and he explained it as being due to the fact that he had been overworking. On one subsequent occasion with the same young lady, he had had an abortive sort of success, obtaining an erection but losing it before reaching an orgasm. Following this, the patient began to attempt relations with this young lady, as well as with some others of his acquaintance, four to five times a week. Sometimes he would be able to get a transitory erection but was rarely able to carry the sex act to completion and when he did manage to have an orgasm, it was incomplete and unsatisfactory. At this time, his anxiety attacks, which had been present for years, became worse. The patient felt that he understood this and was somewhat discouraged and depressed by his condition.

On further questioning it was revealed that the patient had always had some difficulty with ejaculatio praecox. This had first occurred while he was courting the woman whom he later married. He stated that he had met this young lady, who was quite refined, and who took a rather motherly attitude toward him, and that after a short period of courtship they began to have sex relations. He stated that he was not sure as to whether or not she was satisfied, but she seemed to be, but his ejaculation was often premature and often he had an incomplete orgasm. This continued throughout their courtship and throughout their married life. The patient states that following his separation from his wife he had also had some instances of ejaculatio praecox with various young women. A survey of the early history in this case revealed the following information. The patient was the only child of a rather amiable, chronically ill, father who made an average economic adjustment, and a rather domineering, possessive mother, who was often critical of the father and the patient. The father died of tuberculosis when the patient was 15 years of age. He had left school at that time in order to work and since then had been the sole support of his mother and the mother's sister, who was an old maid. The patient was engaged in a responsible position of a semiprofessional nature, for which he had prepared himself and which he had obtained by competitive examination, having won his appointment over the heads of many better educated individuals. The patient liked his work fairly well. He had married at the age of 25, over the protests of his mother. As previously mentioned, he had had sex relations with his wife prior to marriage and states that his wife "married him," that is, his wife kept suggesting to him and insisting they get married until the patient, "in a weak moment," agreed to do so. He states that he and his wife were fairly compatible, but that his wife and mother did not get along at all well and yet they were compelled to live together for financial reasons. Two children were born of the marriage and the patient states that both pregnancies were planned. These, however, added to the confusion and the crowded condition in the household, and the conflict between the maternal aunt, the grandmother, the patient, and the patient's wife over the management of the children made the marital situation unbearable. As a result, the patient asked his wife to leave and she apparently felt that this was a good idea. They were subsequently divorced, but continued to see one another in terms of visiting with the children. There has been no physical contact between them since the divorce. He states that in the last several months of their marriage, no sex relations took place; that his wife wanted sex relations more often than he did, but that she was not too insistent about it. He also made a statement which was of interest in light of subsequent information obtained, saying that when his wife would attempt to stimulate him sexually, it would be at night when he was asleep. He would sometimes wake up and find his wife fondling his genitalia, and at other times he would awaken to find himself about to have intercourse with his wife. Sometimes he enjoyed this, but at other times it made him rather angry to have her disturb his sleep. He believes that his reaction depended on whether or not he was tired.

Since his divorce, the patient has withdrawn pretty much from social contact with his former friends. What social activity he has had has consisted largely of going out with various young ladies and of attempting to have sex relations with them. He has lost interest in his hobby of amateur theatricals which was rendered impossible by the advent of the war, and has dropped most of his former male friends. He had also noted that he was becoming increasingly irritable with his mother and his aunt. He expressed considerable resentment and hostility toward his superior in the organization in which he found himself. The patient had always been a rather bookish, studious person, and in recent months this had been almost his sole recreation. He was extremely anxious to have detailed psychotherapy, because he believed, from his psychological reading, that this was the only solution to his problem. In spite of this expressed desire, however, he was unable to produce any material other than that described in the early history during the first several interviews. During these interviews, the patient would sit throughout the entire hour, wiggling restlessly in his chair. He would sweat profusely and at times his face would flush and at other times become pale. He would repeatedly state that he would like to talk, but he just could not think of anything to say. During some of the interviews he would come into the interview with material he had thought of during the interval, and this material would be discussed. As a rule, however, the material proved to be rather superficial and the discussion short. The patient's attempts to enlarge upon this material during the interviews met with little success, and he would seem to block or freeze up. Because he was an office patient, it was not thought advisable to use any type of intravenous barbital in an effort to loosen him up or to overcome what might be causing his resistances. He was, however, instructed to take three grains of nembutal 30 minutes prior to the time of his appointment and this was done on several successive interviews and seems to have been the method by which pertinent material finally started to come. The following material has been arranged in more or less chronological order for ease in presentation and not in the order it was obtained.

The patient's earliest recollection produced during the interviews is of the fourth and fifth years. The first of these was listening to his father describe to the mother an accident in the sawmill in which the father worked. The accident consisted of one of the large band saws breaking and cutting a man to pieces. The patient's father at the time had the job of keeping the saws in repair and sharpened. The patient states he was somewhat fascinated by these saws and during the interviews was able to recall some phantasy that one of the repaired saws fixed by the father might break and injure the patient. These phantasies were usually of tearing the abdomen or genitalia. He could also recall a phantasy of the father being killed or maimed by an accident with one of the saws. About this same time, he also recalled a great feeling of guilt about some sexual play with a little neighbor girl. Further inquiry about these feelings of guilt revealed that actually there was anxiety and apprehension lest the mother apprehend them, rather than any feeling that they had committed any great wrong. Not very long after the above episode, the patient recalls his father becoming ill and of his going to see the doctor. He recalled rather vividly, and with considerable display of emotion, the family scene during the time they were awaiting the doctor's diagnosis, the patient's father having gone to the doctor on one day for a series of examinations and returning the following day for the reports. He recalled hearing his father and mother discuss the possibility that the father might have tuberculosis. The patient states he felt this was rather horrible but on further thinking about it, states he also remembers having gone out behind the house, sitting down and thinking how he hoped his father would have the tuberculosis. He states he was unable to see why he should have such an idea because he and the father had always been quite friendly. The patient was able to recall that he felt rather upset about having had such ideas when the following day it was reported that the father did have t.b. The family then went to a health resort where they lived in a cabin. The patient states that he became very industrious in trying to help with household chores, helping in the yard, carrying in wood, water, etc. This was in sharp contrast with his previous behavior. About this time he also began to withdraw from contact with his friends. He had in the meantime started school and began to spend all of his time and effort in studying very hard and attempting to do well with his school work. He states he didn't get along well with the other children because of his antisocial behavior and because he was very studious. The father was away a great deal during these years, and the family was in extreme financial straits because of the father's illness and his inability to work. The patient states that they often lived with relatives and he always resented being one of the poor relations and that they were frequently treated as such. During these years the patient recalls tremendous conflicts which he suffered because he had been doing some sexual experimenting with the family duck, which died. He recalled that his father's diagnosis was that the duck had died of a broken egg in the egg sac, but he felt that his sexual experiment had probably produced the duck's death. He was extremely fearful lest his father discover it and punish him. He also became extremely fearful that a little girl with whom he had been conducting similar experiments might die. He remembered that unfortunately at about this time the little girl became ill of some transitory illness and he felt certain that she would die and that his crime would be discovered and that he would be severely punished. He states in all of these instances his fear centered on the fact that his father might discover him. He believes this was odd because the father did not as a rule punish him, and the mother was the strict disciplinarian in the family.

Because of the family's poor living conditions and because they were living with relatives, the patient was at times forced to sleep with the mother. He states that he would frequently awaken at night and find that his mother was handling his genitalia. Then his mother would tell him to get up and go to the bathroom. The patient states that each time he would have an erection, which he thought was due to the fact that he had to urinate. His mother told him, and he believed it, that she was feeling his genitalia in order that she could determine whether or not he needed to get up and go to the bathroom. The patient says that this always made him very annoyed and angry, but in spite of his protests the mother continued to do it. He denies that there were ever any orgasms produced by this behavior and he also denies that there was ever any real sexual desire brought about by it. He did mention, however, that in recent months when he would start to have sex relations with a girl that his impotence or failure to get an erection was always accompanied by a great desire to urinate. This was so severe that at times it would be necessary for him to leave the girl and go to the bathroom to void. When the patient was about 14 the father became much worse, and at that time the patient and his mother were living with one of the relatives. Because the father had tuberculosis the whole family was afraid of him so a bed for the father was placed in a woodshed. The patient states it was cold and he felt some resentment toward the relatives for not providing better quarters. While he states that he resented the fact that the relatives did not provide these quarters, he also recalls that he felt very guilty about it, and had the feeling of personal responsibility. He also recalls having at this time thought that his father would be better off if he did die and of having felt some relief when he died. He also recalls feeling that he was now the head of the family and would take over and support his mother.

He states that he was quite happy during these few years, but after about two years the maternal aunt moved in with them. The patient resented this bitterly because he felt "she was breaking up my happy home." The patient and maternal aunt did not get along at all well and that condition exists at the present time. The patient states that he never could feel justified in pushing her out of the home and continued to support her because his mother insisted on it and would quote to him that it was his duty to provide for this poor old lady. His own mother worked part of the time to aid in the support, but a greater proportion of the time the mother and the aunt have depended on the patient's earnings for their subsistence. The patient did not go out very much with young people and avoided the company of girls, until he met his wife. He states that his wife had a disposition very much like that of his mother and says that he didn't recognize this when he first met her but after their marriage he became aware of the similarity. The patient states that when his aunt moved in with them and his mother began to neglect him, he had a period when he became rather depressed, discouraged, and felt life wasn't worth living. He made no suicidal attempts but he sometimes considered it. He then stated that he believed the reason his marriage was broken up was because the wife had the same failing of neglecting him, as did his mother. He states that she seldom took any interest in him, refused to listen to his complaints or interests, and was very selfishly interested in her own friends and activities. He says she expected him to conform to her interests rather than her conforming to his. He could see that this was a carry over from his childish feelings of resentment and rejection by the mother. It was interesting to note that the patient's attacks of anxiety and feelings of being ill at ease disappeared with the development of the information concerning the death wishes toward the father. He states that the periods of depression and dejection which he had thought due to worry over his impotence also disappeared, and he felt that these ideas and anxieties had probably been due to the fact that he feared he would be mutilated as punishment because of his wishes directed toward the father. He felt that his difficulties with his sex relations with his wife and other women were due to a fear of punishment and a fear of being detected, plus the similarity in the personality attributes or appearance between these persons and his mother. As he reached a better understanding of the nature of his difficulties, the patient's tremendous desire to prove himself by having frequent sex relations disappeared. Formerly, he would visit one of his girl friends almost every night, or at least five times a week, but this interval dropped to approximately two times per week. He also was happy to discover that he was able usually to have satisfactory sexual relations with a complete orgasm. One young lady with whom he was having sex relations continued to give him "some trouble," however, and he thought it might be due to the fact that this young lady's husband was to return home soon from overseas. He states that he had some guilt feelings about contacting her in her husband's absence and also some mild apprehension. His other girl friends proved to be more satisfactory sources of sex contacts for him. He continued to feel somewhat resentful toward his mother and his aunt because he had to support them, but he felt that he understood this situation better. It is interesting to note in this case the sequence of the improvement. The first thing to disappear were the attacks of anxiety and the periods of feeling depressed. The difficulties in sexual activity persisted for some time after the anxiety was relieved, and as a matter of fact, had not entirely disappeared at the time treatment was discontinued. Subsequent follow-up reports revealed that he has continued to do well and that his sexual performance has improved steadily. He occasionally suffers from some premature ejaculation during "back seat skirmishes," but under satisfactory conditions he is able to perform satisfactorily. He has not remarried.

G. The Reactive Depressions. These are properly described under the psychoneuroses, but for ease in differential diagnosis, they are described in this textbook in the chapter under Affective Disorders. It is pointed out in that section that there is some evidence to indicate that all of these depressive reactions are reactive in nature, varying only in degree of severity. Because they require special methods of management, and because they all share the qualities of depressed affects, the reactive depressions are discussed under that heading. The student should remember that the reactive depressions, at least, are generally considered to be a form of psychoneurotic reaction. Nevertheless, there are depressions which are definitely psychotic but otherwise do not fulfill the conditions of manic-depressive psychoses.

H. Anorexia Nervosa. The official classifications place Anorexia Nervosa under a separate heading. In our opinion, this is unwarranted as these cases represent a rejection of food, this rejection being based on deep-seated conflicts in which the taking of food has become the symbol of the original conflict and by rejecting it the patient assuages his conscience for the deep-seated or original transgression of his moral code. Because the mechanism is one of repression and expression of the conflict through symbolic symptoms, it is the same as seen in the anxiety psychoneuroses or in the hysterias. The following case is a rather typical example of what is classed as anorexia nervosa in many clinics.

This patient is a rather simple, primitive person in contrast to many others reported in the literature and she responded to simple therapy, also in contrast to many of the cases reported in the literature. It is also true, however, that the relief of symptoms in this case was purely symptomatic. The patient was an extremely thin, white female, age 29, admitted to the hospital because of persistent vomiting. The family revealed that this vomiting had lasted for many years. She states that she was unable to hold any food on her stomach except an occasional bowl of warmed milk and crackers. The patient had been living on milk and crackers for the past three years and according to her own story had taken nothing else. She was so emaciated that even some of the interosseous, thenar, and hyperthenar muscles in the hand were atrophic to a degree usually seen only in organic neurologic diseases. There were some deficiency symptoms present, in tenderness on deep pressure over the achilles tendon, but there were no hyperesthesias and no disturbances in the texture or consistency of the skin. The patient took great delight in describing her symptoms. During the first few days in the hospital when she was given food to eat, she would immediately vomit it. The physical examination revealed nothing except the extreme emaciation. The laboratory studies revealed a rather marked secondary anemia, but no other changes. Oddly enough, the serum proteins were normal. The patient was given a series of amytal interviews, during which it was suggested that she would be able to eat and that she would rapidly recover. She was also given 15 units of insulin before each meal in an effort to stimulate her appetite, and placed on a high dosage of vitamins of all sorts because it was felt that in view of the history there must be some deficiency state present. The patient began to improve rather rapidly on this treatment. Because of her rather simple mind, not much in the way of deep conflict material was discovered. It was found, however, that there was a very deep attachment between her and her father and that she could get increased attention from him by her symptoms. It also developed that the father was the one who could usually persuade her to eat and that he would express approval of her eating in much the same manner that an overfond parent does with a small infant who refuses to eat. The father would visit the patient on the ward, and when he did this she was invariably worse. The father was an uneducated, weird-looking person. It was not until he was sent home and the patient told that she could not see her father until she recovered that any therapeutic result was obtained. The patient continued to vomit periodically and would complain bitterly of the pain in her abdomen, in spite of our reassurances that the abdominal x-rays, etc., were normal. During one of these bouts of vomiting and abdominal pain, the patient asked to have more snuff sent in. Since she seemed very fond of this, it was explained to her that the snuff was undoubtedly upsetting her stomach and that she could not have any more until her stomach symptoms improved enough so that she could tolerate both food and the snuff. While this crude, punitive approach could not be properly called psychotherapy, it seemed to fill the need in this particular patient because from that day on she had no more attacks of abdominal pain or vomiting. She began to eat very heartily, gained about 30 pounds in weight, and was hardly recognizable as the patient who had first come into the hospital. After about six weeks in the hospital the patient was dismissed to return to her home. It is felt that she will probably relapse shortly after getting home but we have not yet had any word of her subsequent course. In this particular patient attempts at deep probing were completely unsuccessful and it is also doubtful that much could have been accomplished in terms of rectifying the situation even if some deep-seated conflict material had been uncovered.

In other cases, it may be the only form of therapy practical because of the patient's inability to come to the physician's office due to the fact that he lives many miles away and it is too often rendered necessary to use this type of treatment because the physician's time is so limited that he does not have enough hours in his schedule to give deeper therapy to all of his patients who need it. This latter statement becomes a very real and practical problem in portions of the United States outside of a few metropolitan areas. This is the form of psychotherapy which can be given effectively by many general practitioners if they will merely take the time to listen to the patient's complaints and explain to him the nature and origin of his symptoms in terms that the patient can understand. At least something is accomplished.

I. TRAUMATIC NEUROSES. Since the theory that traumatic neuroses are due to hypothetical molecular changes in the central nervous system is scarcely tenable, the separation of the traumatic and war neuroses from the others is now largely a matter of custom. In other words it is hardly the physical trauma such as the railroad accident, the shell shock, the concussion, or the gassing which produce the traumatic neurosis, but rather the mental accompaniments such as fright, anxiety, and the like, the psychic interaction which results from the trauma, and the important questions this interaction opens up, such as worry concerning future working capacity, fear of repetition of the accident, the human desire for damages, and in short, the fear of being handicapped and exposed to the vicissitudes and hazards of the battle of life. Such a belief does not deny the existence of actual organic concussion, but it merely restricts the number of cases in which there is true pathology. It is not always possible to say with exactitude whether the case is organic or whether it is functional, and it is not unlikely that there may be transitional cases with mixed symptoms.

The reason one person subjected to traumatic situations develops a traumatic neurosis and his co-worker fails to do so requires some explanation. As presently understood, it is believed that the person who becomes ill in the traumatic situation is an individual who, through past experiences, or through some difference in constitutional make-up, is less capable of discharging the energy and anxiety that accumulates. This pent-up excitement continues to produce feelings of tension and inner restlessness which, failing to find a discharge produces many of the symptoms of anxiety seen in traumatic neuroses. Persons, who by reason of past experiences enter the traumatic situation in a state bordering on psychologic decompensation, or persons who by reasons of their physical, intellectual, or other constitutional resources have less adaptive capacity, than is required to cope with the situation, will be prone to develop symptoms in the traumatic situation. A great number of the war neuroses might be classified in this reaction type. The symptoms of the traumatic neurosis should be understood as the patient's attempt to get rid of, or to "fix" the excitement produced by the traumatic situation. In discussing the production of the symptoms, Fenichel in particular has divided the symptoms into four groups. While this division seems a little arbitrary it has much merit. He feels that one of the commonest ways of attempting to discharge excitement is by so-called emotional instability, or periods of uncontrolled emotion. This may be manifest by periods of weeping, periods of uncontrolled rage, or periods in which there are acute anxiety attacks with marked periods of sweating, tremor, and shaking. This particular form of discharge was quite common in persons subjected to unusually stressful situations in combat, during World War II. Other patients may show marked disturbances in the sleep pattern. This is manifested in one of two ways: some patients have great difficulty in sleep and relive their traumatic situation in their dreams once they do fall asleep. At times during the waking state they relive the situations in phantasy. The use of Amytal or Pentothal in discharging the anxiety was medicine's attempt to use the methods of nature by reliving and discharging the emotion connected with the situation in much the same way that the patient attempts to do it with his sleep disturbance. Another way of using sleep disturbance is by prolonged periods of sleepiness and withdrawal, much in the way that a narcoleptic patient attempts to discharge his anxiety. We have seen this type of reaction repeatedly in medical students who are under tremendous amounts of stress and who, being unable to handle their apprehension and anxiety by ordinary methods resort to prolonged periods of sleeping. Other patients eliminate certain body functions. One may see periods of amnesia, prolonged periods of marked mental confusion, at times patients may hallucinate and project in an attempt to handle the pent-up excitement. Some patients become very rabid in their opposition to certain members of their family, certain religious or ethnic groups and thus use this phobic-like mechanism for discharging the emotions attendant upon the traumatic situation. Some patients do not solve the situation with the acute reaction and may react to the traumatic situation by developing a more or less typical psychoneurotic syndrome such as those described in other sections of this chapter. Of these syndromes the hysteria, the anxiety-hysteria, or an anxiety psychoneurotic reaction is usually chosen, but varied symptoms ranging from sweating to severe tics and convulsions may be encountered.

The bodily symptoms may include everything which has been described in this chapter on hysteria. The motor irritation symptoms such as tremor and myoclonus, and paralyses of the arms or legs, or of functions, such as walking or standing, as well as contractures, are frequent. Sensory failures, such as anesthesias, are also quite common. Pain is a frequent symptom and in war there were numerous cases of "lumbago and sciatica" with grotesque kyphoses, scolioses, and disturbances of the gait. Hysterical deafness and blindness may appear, as may also loss of the sense of taste and smell. Finally, there may be in traumatic hysteria, manifold trophic, secretory, cardiovascular, and other phenomena.

The symptom of approximate answers of the Ganser syndrome may occur. Questions relating to figures and dates are answered approximately as 6 × 3 = 19, 7 × 4 = 29, or the date is given as one or two dates later, etc. In the "pseudementia" of Wernicke, the patient cannot speak coherently and acts childishly. In the related hysterical puerilism there is a regression to childhood behavior, often in loss of speech and writing function, childish gait, food, habits, and general conduct.

Probably the tendency toward simulation is greater in traumatic hysteria than in the nontraumatic. One can never be sure how large the conscious elements may be, but it is certainly true that the condition of the patient while under examination is very different than it is when he is unobserved. This does not at all exclude an unconscious mechanism, however.

It is particularly in those traumatic neuroses in which there is potential compensation, that it is difficult to determine with exactitude the question of the operation of conscious influences on the part of the patient. Theoretically the distinction is clear: In malingering the symptoms are voluntarily, deliberately and consciously produced with a gainful objective in mind; in hysteria the symptoms are the results of psychopathologic mechanisms largely beyond the awareness of the patient. Practically, it is true, that in actual hysteria there may be much simulation. Kretschmer regards "reflex hysteria"[1] of recent occurrence as more likely to be free from the taint of simulation. It is always important to weigh carefully the gain that accrues to the patient from his illness but, on the other hand, such gain often is not to be reckoned in material terms and since the patient himself may not recognize it consciously, it may be a part of the hysteria mechanism and can only be examined after the hysteria has been traced to its hidden source. Thus, a middle-aged patient with headache, marked tremors and an hysterical limitation of the visual fields insisted on giving up an executive position with a salary of $12,000 annually, placing himself on an allowance of $175 a month as a pensioner. Careful study of the situation revealed sexual difficulties with his wife and he felt that because of his illness the physician should forbid sex relations. There are many phenomena in hysteria that suggest simulation, perhaps notably the resistance to cure but, again, it must be remembered that the hysteric has converted his psychic difficulties into objective signs and symptoms and is not greatly disturbed emotionally.

In traumatic neuroses more exact information is needed (as far as conscious and unconscious motivations are concerned) concerning that "no man's land" between the occurrence of the trauma and the onset of the symptoms. This is especially important if the accident has occasioned a brief period of unconsciousness. It seems probable in certain traumatic neuroses, that during the twilight state while unconscious mechanisms are shaping the conversion into objective physical signs, there is still the intrusion of conscious or at least semiconscious elements, perhaps partly repressed and partly admitted, but, nevertheless, having a bearing. It may be seen that in some instances the dividing line between malingering and hysteria may be very faint.

In true hysteria the tendon and skin reflexes, the muscle volume and tone, and the electrical reactions are usually not disturbed. The physician must bear in mind that there is frequently an hysterical addition to actual trauma. It is quite important to separate out the symptoms which are organically conditioned from those which are functional.

The mental features of traumatic or war hysteria may be similar to those of the usual form, especially in regard to the emotional state, the depression,

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[1] In which an automatic nervous mechanism is prominent and the will unimportant, as, tic, spasm, tremor.

Case	*Sex*	*Age*	*Occupation*	*Predisposing Factors*	*Precipitating Factors*	*Activity During Amnesic Period*	*Psychologic Content*	*Treatment*	*Results*
1. S. B.	F	35	Teacher housewife	Hysterical personality type. Engagement to man with colored ancestor. Marriage to man inferior to herself. Increasing responsibilities due to increase of family	Extramarital love affair with contrast between present status and possibility of better life adjustment. Termination of this affair. Financial stress at home	Ordinary routine affairs as well as walking about streets with no memory for activities. Duration 1 to 3 hours	Phantasies of love scenes with extramarital partner, especially formation of home and better social adjustment and love scenes with caressing and intercourse	1. Reconstruction of amnesic period by free association methods 2. Aeration of conflict material with frank discussion of present adjustment 3. Re-education in meeting her problems more directly with encouragement in facing the present situation and making the best of her present opportunities 4. Constructive socializing program with increased recreational outlets	Recovery from tendency to amnesic periods with complete absence of conversion symptoms for a period of 2½ years

2. E. L.	M	41	Farmer	Hysterical personality type. Dependence on family and unstable marital adjustment	Conflict with wife over sale of property. Conflict between family and marital attachments	Trip from home to town in which purchaser of brother's property lived with failure to locate this person, and return home. Complete amnesia for entire period	Attempt to dispose of property against wife's wishes in order to imitate the brother's property sale	1. Reconstruction of amnesic period by free association methods 2. Frank discussion of mechanism of the amnesia with desensitization of patient to family situation 3. Re-education in meeting difficult situations	Improved after 3 days hospital treatment followed by subsequent recovery. Maintained for period of 1½ years
3. J. L.	M	36	Auto mechanic	Hysterical personality type. Carbon monoxide intoxication 10 years previous	Financial difficulties. Change in living conditions and occupation	Driving and repairing automobiles. Wandering about city streets. Complete lack of memory for amnesic periods over several years	Not completely reconstructed. Vaguely associated return to previous occupation and previous financial status	1. Attempted reconstruction of amnesic periods by free association methods 2. Frank discussion of conflict material with explanation of mechanisms of the amnesia 3. Re-education in meeting difficulties more objectively	Recovered after 15 days of hospital treatment. Recovery maintained for 1½ years

Case	*Sex*	*Age*	*Occupation*	*Predisposing Factors*	*Precipitating Factors*	*Activity During Amnesic Period*	*Psychologic Content*	*Treatment*	*Results*
4. H. H.	M	41	Contractor	Hysterical personality type. Incompatibility with marital partner. Difficulty in raising children due to inconsistent discipline	Conflict with wife over placement of children in his business. Patient refused to employ children because they were inefficient. Forced to do so by wife's attitude. Financial difficulties	Amnesic period of 30 hours. Walking about town. Failure to pay employees. Carried tools to railroad station and bought new clothes and suitcase	Frank escape from what he considered an unbearable marital situation and financial obligations which he thought he could not meet	1. Reconstruction of amnesic period by free association methods 2. Frank discussion and aeration of conflict material with explanation of mechanism of amnesia 3. Re-education in more objective meeting of difficulties	Apparently recovered after 3 days of hospital care. Present status unknown
5. P. K.	F	21	Housewife	Hysterical personality. Worry over mentally defective siblings. Conflict over adequate sex adjustment to husband. Inability of husband to	Birth of child with increasing responsibility	Phone calls to physician giving names other than her own, telling him about conditions of her friends and calling him out to see them. On one occasion phoned	Love phantasy with physician and desire for repeated intimate contacts similar to those during pregnancy and labor but on different basis	1. Reconstruction of amnesic period by free association methods 2. Complete aeration of all conflict material with explanation of hysterical mechanisms	Marked improvement after two weeks in hospital with increased improvement following discharge for period of six months

				emancipate from home. Financial stress		doctor she had broken her leg. Had no memory for these episodes		3. Re-education with complete reconstruction as to sex adjustment, re-education of husband in sex, re-education in facing actual problems of life more objectively	
6. L. U.	M	17	School-boy	Hysterical personality type. Feelings of physical inferiority due to difference in stature between himself and brothers, well compensated by physical activities prior to present illness. Marked emotional attachment to brother's wife	Pregnancy and delivery of sister-in-law. Operation for appendicitis. Deprived of athletic outlets during post-operative convalescence	"Wild episodes in which he exerted superhuman strength and did things beyond his physical ability." Fighting with several men. Drove automobile 90 miles in 90 minutes over country road	Dramatic phantasy in which patient was fighting men much bigger than himself and defeating them. Assertion by this dramatic representation of his physical superiority, thus giving him reassurance	1. Reconstruction of amnesic period by free association method 2. Aeration of conflict material 3. Re-education in meeting difficulties objectively 4. Construction of socializing and physical health program for patient after leaving hospital	Recovered with good insight after 22 days in the hospital. Recovery has been maintained for a period of 2 months

Case	*Sex*	*Age*	*Occupation*	*Predisposing Factors*	*Precipitating Factors*	*Activity During Amnesic Period*	*Psychologic Content*	*Treatment*	*Results*
7. F. M.	F	31	Housewife	Hysterical personality type. Mother died when patient was 7 years old. Early home life unstable. Cruel father, oversolicitous relatives with oversupervision. Premarital intercourse. Marriage to escape from home	Extramarital relations	Wandering about streets. Attending moving pictures. Meeting with extramarital lover and sex relations with him for all of which she had no memory afterward	Escape from unsatisfactory marital adjustment on basis of extramarital love affair and phantasies of running away with lover, etc. Satisfaction of otherwise unsatisfied sex cravings	1. Reconstruction of amnesic period by free association methods 2. Complete aeration of conflict material and desensitization to family situation 3. Re-education regarding the objective meeting of her problems 4. Constructive socializing program after leaving hospital	Improvement after few days in hospital. Patient still under treatment

and the like. However, the traumatic patient is apt, in general, to be more hypochondriacal and querulous.

The picture of traumatic neurasthenia does not differ very greatly from ordinary neurasthenia, though there is more likely to be an admixture with hysterical symptoms. Furthermore, the case is very apt to be complicated by the element of expectation of damages.

COURSE. The course of traumatic neuroses depends on the one hand on the desire to get well, and perhaps in some degree on the intensity of the desire

Table 12

POINTS IN DIFFERENTIAL DIAGNOSIS BETWEEN ORGANIC AND HYSTERICAL AMNESIC PERIODS

Characteristics of Amnesic Period	*Organic*	*Hysterical*
1. Onset..............	Usually abrupt and sharply defined. If precipitated by head injury there is often also amnesia for events preceding the injury for two or three hours	Usually given by patient as abrupt, but frequently there is some vagueness as to exact time of onset. No loss of memory for events preceding onset
2. Recovery...........	The actual period for which there is amnesia usually disappears suddenly, over a period of one or two hours a day, often after a profound sleep. Mild confusion with difficulty of orientation may persist for a day or two afterward	Recovery abrupt with mental clearness and accurate orientation. There may be some vagueness as to time of actual termination of amnesic period
3. Precipitated by......	Occurs spontaneously or following actual head injury, and may occur at any time	Almost invariably precipitated by definitely traumatic emotional experiences
4. Behavior...........	Often confused and bizarre with evident lack of emotional control. Often dissociated, cruel or gruesome acts, or delirium	Usually purposeful and carrying out a continuous project associated with some definite previous experience in patient's life. Contact with surroundings maintained
5. Physical examination.	Will often show evidence of head injury brain tumor, focal or general neurologic signs, etc.	Reveals no characteristic picture. Often there is constriction of sensory functions. Most commonly contracted visual fields or localized, atypical losses of tactile sensation

Characteristics of Amnesic Period	*Organic*	*Hysterical*
POSTAMNESIC PERIOD		
1. Memory loss........	Characteristically a complete loss of memory for all events during period of fugue which cannot be reconstructed by any means whatever	Characteristically a complaint of complete loss of memory for events of fugue episode but isolated events during the fugue may be remembered, and all events can be reconstructed completely by associative methods or hypnosis. Events preceding the period of amnesia are usually clearly remembered
2. Personality type.....	Often distorted into instability and irritability accompanying organic brain disease. Not necessarily typical of any personality syndrome	Typical hysterical personality type with hypomanic or depressive characteristics and often showing other functional disturbances during interval between fugues
3. Physical examination.	May be similar to that during fugue period	May be similar to that during fugue period
4. Serologic...........	There may be specific evidence of syphilis or other organic brain disease by increased spinal fluid protein and cell counts, positive Wassermann, etc., or often in epileptic cases decreased spinal fluid protein	Characteristically normal findings

for compensation. Furthermore, it is shortened by the skillfulness of medical and social treatment. In general, the prognosis in war was much better than in civil practice, since the treatment was systematic and energetic, and the physician had complete control of the environment.

For a further discussion of the trauma problem, see the chapter on traumatic reactions.

J. THE SOMATIZATION REACTIONS. Patients in this section are grouped together, because the neurotic manifestation is expressed in the dysfunction of a particular organ or a particular organ system. The analytic literature usually discusses these reactions under the term of the "organ neuroses" and the older psychiatric literature has such patients distributed through the hysterical, the anxiety, and the hypochondriacal group. The psychopathology in these cases is usually clearcut. The symptomatology is of such nature that it might well be discussed under any of the above headings. Material pertinent to this section will be found in works on psychosomatic medicine and in this particular textbook will be found in Chapter 12. The reason for this confusion and artificial grouping of our patients is the fact that few patients know our classifications and therefore cannot hit our textbook description exactly. In a study of the pneumonias the student is going to be similarly confused, because of the inconsiderate patients who insist on developing a cardiac decompensation with pulmonary congestion, secondary to circulatory failure, complicating the picture due to congestion from the infection. This seems a good place to again urge the student to consider the total patient and attempt to understand him as he functions in his environment, to understand what it is that the patient is trying to accomplish with his illness rather than attempting to fit him into one of our rather artificial diagnostic categories. The principal justification for placing these disorders in a separate group is that the organs and systems concerned actually show physiologic disturbance, and this physiologic disturbance is of a more general character than that seen in the classical hysterical patients. Psychologically the changes of the physiologic types seem to have less direct psychologic symbolization than in the case of the hysteric and phobic reactions. With further study this latter distinction seems to be less definite and it is certain that the organ or organ system affected is chosen because of a rather definite fixation of emotional drives on a particular organ with an emotional discharge on the organ manifest by the physiologic disturbance. This has been referred to as an "affect equivalent." Long periods of hostility, or long periods of anxiety, with no satisfactory method of discharge are also thought to produce physiologic changes. This was discussed in some detail under the anxiety states but it should be pointed out that the particular system of the body effecting the discharge is a system chosen because that particular organ system has either symbolic or physiologic use for discharging the dammed up emotions.

Another way in which an "organ neurosis" may develop is behavior changes due to unconscious attitudes on the part of the patient, which bring about physical changes. It is believed that the person, because of his psychogenic disturbance, carries on a certain type of behavior, which results in physical or chemical changes within the tissues and that these changes begin to produce symptoms and organ dysfunction. This is different from the first group discussed in that the patient's emotions are being discharged through the particular form of behavior and the somatic symptoms resulting from this are entirely accidental insofar as the patient is concerned and serve no useful purpose in discharging the energy. This form of expression is manifested in some simple and some very complicated ways. For example, a person who insists on taking long walks in cold damp weather improperly clothed may find that the result of "walking off" his anxiety gives him blisters on his feet or perhaps a cold in the head. In this instance neither the blisters nor the cold in the head were essential but the activity with the physical exertion and exposing himself to the elements seems to have some significance. Another common type of reaction is the patient who rubs certain portions of the skin because it gives him a certain type of emotional gratification. This activity carried on for a long period of time will produce artificial lesions of the skin which are traumatic. (These are to be distinguished from neurodermatitis.) It is also possible that auto accidents and physical trauma frequently result from patients discharging energy through unwise or reckless behavior in the operation of vehicles or machine tools, the patient's behavior being the expression of the discharge of his anger or tension and the injury to the body being of secondary significance. In other cases the injury itself is the goal, but these cases would not belong in this particular section. There is an extensive amount of literature on this particular subject, most of which is described in Chapter 12, "Psychosomatic Medicine." As previously mentioned, we have included a special chapter in this book for the student's orientation in this field. No prolonged case studies of this type will be presented at this particular time because there are so many in the literature and it is felt that the space could be better devoted to describing briefly the way in which unexpressed emotion finds a release or outlet in various physiologic dysfunctions. Every organ system of the body is suitable for expression of these particular energies. Some systems are by reason of our emotional development and by their particular anatomic and physiologic make-up, particularly well suited as organs for the expression of emotion or for the discharge of anxiety. A few of the more commonly used organ systems will be discussed.

One of the commonest organ systems used to express dysfunction of this type is the gastrointestinal tract. Peptic ulcer has been studied more extensively than any other disorder. The monumental works of Wolf and Wolff, Alexander and his group at the Chicago Psychoanalytic Institute, and numerous other workers in this field have shown that psychologic attitudes do much to precipitate the syndrome of peptic ulcer and some authorities believe that psychologic disturbances are the principal cause of this disorder. Fenichel has summed up this etiological picture in a manner so neat that the authors are going to present this phase merely by quoting him. "Persons with a chronically frustrated oral receptive demanding attitude, who have repressed this attitude and often manifest very active behavior of the reactive formation type are unconsciously permanently 'hungry for love.' It would be even more exact to state that they are hungry for necessary narcissistic supplies and the word hungry in this connection has to be taken literally. This permanent hunger makes them act like an actually hungry person does. The mucous membrane of the stomach begins to secrete just as does that of a person who anticipates food, this secretion having no other specific psychic meaning. This chronic hypersecretion is the immediate cause of the ulcer. The ulcer is the incidental physiologic consequence of a psychogenic attitude; it is not a distorted satisfaction of a repressed instinct.

"It may be questioned whether this etiology is valid for all cases of ulcers.

It is possible that the functional changes which in some cases are brought about by repressed oral eroticism may be determined in others by purely somatic causes."

It is also felt that mucous colitis, spastic constipation, diarrhea of a chronic sort may be due to anal frustrations and fixations. The case described under hypochondriasis used his gastrointestinal tract for erotic satisfaction which became the focal point of the patient's emotional life. The genital organs may also be used in an indirect way for the expression of psychogenic disturbances. The impotent man described under the anxieties is a typical example of this type of reaction.

The skin often serves as a medium of emotional expression. The so-called neurodermatitis cases are among the commoner psychosomatic disturbances. The skin offers an admirable source of erotic expression because in earlier stages of development there is a lot of erogenous pleasure associated with caressing, stroking, and petting. The skin also is richly supplied with autonomic nerves which makes physiologic disturbances secondary to inner tensions and anxieties easy to observe on the skin. Almost every human being has expressed some of his emotions through the skin. The nervous chills, the blushing and flushing, the prickling of the scalp in dangerous situations, the "crawling" of the skin after prolonged emotional stimulation are symptoms of cutaneous sensations secondary to inner tension which are familiar to practically all human beings. In many cases the skin about the genital organs or about the anal orifices are used for discharge of these tensions. Pruritis of the vulva, the anus, or herpes of the vulva and anus are common manifestations of this particular type of disturbance.

The cardiovascular diseases are thought to have certain elements of psychogenicity in their etiology. Anginal syndromes, coronary disease, and hypertension have all been studied in some detail.

In these states, which are in their finer nuances distinguishable in their psychologic facets, the general pattern is one of frustration, failure of the environment to offer adequate outlet for tremendous amounts of aggression and hostility, the damming up of this tension, and, after a prolonged period of time, changes appear in the vascular coats with secondary coronary disease in some, and hypertension in others of different constitutional and psychologic pattern.

The muscular system may be used for emotional discharge. Prolonged tension and anxiety may produce muscle spasm, which after long periods of time may begin to produce aches, pains, and other changes. Probably one of the commonest manifestations of this is the chronic backache and the chronic headache of the occipital type, both of which seem to be produced by prolonged states of muscular tension. It is also certain that muscular tension, over prolonged periods of time, aggravates and exaggerates the symptoms of arthritis of the deformans type and it is quite possible that they may even play some role in the etiology of these particular disorders. These patients apparently have some desire to express rage or hostility through movement and the inhibitions of these movements with the continuation of the chronic muscular tension seems to bring about the particular changes secondary to muscular dysfunction. Some patients with torticollis, fasciculations and other muscular movements show a similar psychopathology.

The respiratory system, the genitourinary system, the hair, the eyes, the auditory and olfactory systems may all be used for emotional expression resulting in disorders of these particular organs. Some patients will use body segments for these same expressions. Probably the most common one used as an "organ expression" is the head, with headaches as the complaint. In many cases these headaches are due to the muscular tension mentioned above, in others they are akin to the vascular disturbances discussed briefly under the cardiovascular system. In others the headaches apparently are expressions of conversion reactions. Any patient suffering from headaches should have a thorough psychiatric as well as physical and neurologic study.

Treatment of the Psychoneurosis. The treatment of the psychoneurotic reactions is so important for the general practitioner and the student that in this edition we have devoted an entire chapter to it. This is Chapter 13 entitled "Support Psychotherapy." The material in that chapter is applicable to all the other disorders as well as the psychoneurosis, hence the separate chapter. While it may be a little repetitious to discuss some aspects of treatment here, some remarks concerning causal treatment seem indicated at this time.

CAUSAL TREATMENT. In all psychoneurotic patients, one finally comes to a consideration of the factors or elements in the patient's development which led him to the personality maladjustment which he shows at the moment. If one is to understand the patient's attitudes, beliefs, fears, moral and ethical code, and usual pattern of response to various situations, it becomes necessary to study step by step in a chronologic fashion the development of the patient's reactions. In eliciting this material a beginning or entree to the patient's life history is the taking of a detailed psychiatric history. Emphasis should be placed on emotionally important events, the details of dates and times of these events should be obtained as well as any correlation between these dates and the onset of symptoms. A carefully elicited history will usually contain in capsule form the material of which the patient is conscious, or such material as is available to memory on instant recall. While much that is important comes out in this type of elicitation of material, it will usually be found that it is necessary to go back over the patient's development, using certain special methods, in order to uncover the so-called deeper-lying or unconscious material that has either been semiforgotten or repressed. It is felt by almost all psychiatrists that this repressed material is of great importance in understanding the patient's particular personality structure at any given moment. Certain special techniques are necessary to elicit this material. Probably the most widely used is one first developed by Freud, known as free-association. In free-association interviews the patient is merely requested to verbalize unsupervised thoughts. It is usually carried out with the patient lying comfortably on a couch in the physician's office, but it may be done in hospitalized patients with the patient in bed, or in the office with the patient seated comfortably in a chair. Some physicians make a practice of starting the patient's associations by asking them to tell them about some particular phase of their life, such as their religious beliefs, their attitude toward women, their feelings toward their parents, etc.

So-called distributive analysis, as promulgated by Meyer consists in viewing the various facets of a person's personality development in this manner: Always directing the patient's chain of associations by giving him a starting point and allowing him to associate rather freely from that point on. In orthodox psychoanalytic procedure no such direction is undertaken. The patient is encouraged to associate more or less ad lib. In modification of the techniques of the workers in both fields, however, the free-association techniques used become more and more similar.

Some patients, because of deeply seated conflicts, are unable to participate in such interviews and if they do the material elicited is merely superficial chatter, typical of that seen in the theater, society, or at a cocktail party. The patient talks along in such manner to protect himself from producing any deep-seated material. Less subtle patients do not hit upon such a subterfuge and will merely sit throughout the hour saying very little but often exposing much in terms of motor behavior, vasomotor phenomena, and other signs of restlessness. In such patients the physician will often find it saves a great deal of time if he uses certain auxiliary methods in order to facilitate the flow of the unconscious material. The most ancient of these is hypnosis, as first used by Freud in his earlier work in psychoanalysis. In recent years, the so-called hypnoanalysis technique has become popular again, but throughout the years it has been used in certain centers as an easily available method of obtaining information from the patient. More recently, Erickson and others have found that the entire analytic procedure may sometimes be carried out under hypnotic interviews. In most instances, however, the hypnotic interviews are interspersed with ordinary free-association interviews. A student interested in this phase of the problem is referred to the abundant literature on the subject.

A second method which is more easily applied and which can be used in any patient is the so-called sodium amytal interview in which the patient is given amytal in sufficient dose to enable him to talk freely in spite of his resistances. In recent years patients have been placed under pentothal or amytal for most of their therapeutic interviews and the technique has been used not only to obtain material, but also to help the patient to resynthesize and evolve a more satisfactory method of handling his impulses and environmental problems. With psychiatrists' usual delight in new terminology, this extension of the sodium amytal interview technique is often termed narcosynthesis. Both the use of the quick-acting intravenous barbiturates and the use of hypnotic interviews are of great value, but they are techniques that should be used only by the trained psychotherapists and do not have much application for the student or general practitioner. At this point the student and the budding psychiatrist will ask, "What do we do with the material once we have it?" Perhaps one of the greatest disillusionments to the neophyte in psychotherapy is to find that after he has gotten the patient to produce a lot of what seems to be significant and traumatic material, and the patient arrives at an understanding of the evolution of his problem, then he is disappointed to find that his neurotic symptoms continue unabated. The answer to such disappointments can be only that the patient derived nothing from these interviews in terms of growing emotionally, but rather only succeeded in evacuating certain areas of his unconscious with, in many cases, an increase in the anxiety. Irrespective of what school of psychopathology to which one adheres, it becomes increasingly evident with experience that patients profit from therapy, not so much by the quantity or quality of the material produced as they do through the emotional interchange between themselves and the therapist during the phase of production of the material. In this reliving of the earlier experiences, with the emotions being expressed verbally on the analyst, and in obtaining the physician's interpretations of the problem, as the material is produced, the patient develops a different attitude toward his problem and thus his emotional growth and development from that phase on is aligned along more healthy lines. This latter phase of treatment is often referred to as the phase of abreaction and synthesis, but it is our feeling that the terms "reorientation and growth" would be more understandable, expressive, and equally lucid.

In many patients the therapeutic interviews are actively guided by the physician, and sufficient material of this type may be produced and the patient grow sufficiently emotionally to recover from his symptoms in a relatively small number of interviews as compared to a prolonged or orthodox psychoanalysis. It is with considerable interest we view the trend toward brief psychotherapy among certain groups of analysts. It is charged that this brief psychotherapy is an attempt to carry out psychotherapy by nonanalytic psychotherapists who have been oriented in psychoanalytic psychology. It is true, of course, that there are patients who are not amenable to the use of the briefer psychotherapeutic methods, even with the aid of the hypnosis or amytal and in these the more prolonged orthodox psychoanalytic technique should be used.

The above brief remarks will give the student and practitioner some idea of what is entailed in deeper psychotherapy of the psychoneurotic. It is to be again re-emphasized that so-called symptomatic treatment is the treatment of choice for the general practitioner and student. So-called causal or deep psychotherapy usually must be reserved for the trained therapist.

Prognosis. The prognosis in the treatment of the psychoneuroses is rather difficult to evaluate because no one has ever reached any general agreement as to the criterion for improvement or recovery. In general, if patients are relieved of the symptoms for which they enter the institution or are being treated extramurally and if they are able to return to an active, productive life, they may be considered improved or recovered. A careful study of many of these patients, however, will disclose that they have not actually recovered but have merely reached a more satisfactory form of substitution of their original conflict situation and in the strictest psychopathologic sense have not changed or improved appreciably. Since the fundamental role of medicine is, however, to alleviate suffering and to make people more productive citizens in the world, it is probably safest to judge results on the patient's performance in his environment. In comparing statistics of institutions, the lack of uniform criteria for judging improvement again makes comparison of these data almost meaningless. Carney Landis has discussed the statistical evaluation of the psychoneuroses in one of the chapters in Hinsie's book "Concepts and Problems of Psychotherapy." The Berlin Psychoanalytic Institute published a series of results over a period of ten years of patients treated intensively in their institute. Landis has compared these figures with those of the New York

Table 13

COMPARISON OF THE THERAPEUTIC RESULTS OBTAINED AT THE NEW YORK STATE PSYCHIATRIC INSTITUTE AND BERLIN PSYCHOANALYTIC INSTITUTE

	N.Y. Psychiatric Institute Total Cases	*Berlin Psychoanalytic Institute Total Cases*	*Per Cent of Cases Treated Who Were:*						*Berlin, Per Cent of Cases Discontinued*	*Av. Hospitalization in Months, New York*	*Av. Number of Months of Treatment, Berlin*
			Recovered or Much Improved		*Improved*		*Unimproved*				
			New York	*Berlin*	*New York*	*Berlin*	*New York*	*Berlin*			
Anxiety hysteria	17	57	41	35	59	18	0	4	44	5.3	16
Compulsion neuroses	4	106	25	44	50	17	25	6	33	6.2	20
Hysteria	24	105	33	44	54	21	13	6	29	6.8	16
Neurasthenia	5	10	40	10	40	20	20	0	70	4.6	16
Miscellaneous	69	34	43	32	42	15	14	12	41	6.5	18
Psychoneuroses	119	312	40	40	47	18	13	6	36	6.2	17
Manic-depressive	146	14	74	21	18	29	8	14	36	5.9	21
Schizophrenia	180	45	12	7	34	18	54	18	58	6.7	15
Paranoia	3	2	67	0	33	50	0	0	50	4.0	12
Psychoses	329	61	40	9	27	21	32	18	52	6.3	17

State Psychiatric Institute. He has found that in both institutions 40 per cent of the patients have recovered or are very much improved and 47 per cent of the patients in the New York Institute and 18 per cent of those in the Berlin Institute have improved to some degree. The recovered or markedly improved figures are exactly the same for these two institutions using intensive psychotherapy. While it is true that the statistics vary a bit between the institutions as far as the subgroups are concerned, it is remarkable that in two entirely different institutional settings these statistics should be so nearly identical. It should be pointed out that the Berlin Institute figures were in the days before the Nazi heyday and are quite reliable statistics. The accompanying table presents the above data in detail. The next table shows the comparison of figures from other hospitals in other parts of the world with all the New York Hospital statistics combined. It is interesting to note that the percentage of recovered or improved is strikingly similar in all of the instances, although the methods of treatment differ rather sharply between the various institutions summarized. It would seem to indicate that it is not the exact method of treatment that is so important as the skill of the therapist who is using a given method of treatment and the ability he has to understand his patients and to help the patient develop a stronger and better integrated personality in order that he may cope with the problems of the world as they affect him in his day-to-day living.

Table 14

PROGNOSIS IN THE PSYCHONEUROSES

Institution	*Number Treated*	*Average Duration of Treatment (Months)*	*Per Cent Recovered*	*Per Cent Improved*	*Per Cent Recovered or Improved*
All New York state mental hospitals 1917–1934	5700	. . .	32	40	72
Maudsley Hospital 1931 and 1935	1531	6	15	52	67
Cassel Hospital 1921–1933	1186	4.1	45	25	70
N. Y. Psychiatric Institute 1930–1935	119	6.1	40	47	87
Berlin Psychoanalytic Institute 1920–1930					
Total cases treated	312	. . .	22	36	58
Total cases completed	200	17.1	35	56	91

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CHAPTER 12

PSYCHOSOMATIC MEDICINE

A text of general psychiatry is not the proper medium by which to present detailed explanations and discussions of so-called psychosomatic medicine. Furthermore, since this book rests squarely on the platform of the body-mind unity of man, there are numerous symptomatologic examples of this close relationship, particularly in the presentation of functional illness. Nevertheless, so much attention and interest are now focused upon the psychosomatic area that it would not be amiss to present certain elementary and perhaps provocative considerations.

The accomplishments of psychosomatic medicine are noteworthy; its objective is magnificent, but the name is unfortunate. Its comparatively recent usage makes it sound like the announcement of a marriage between body and mind, with the subdivisions and specialties of medicine and psychiatry in the bridal party. If the union of body and mind has just been consummated then psychiatry for some time has sanctioned an illicit relationship. Long before the word psychosomatic was compounded, psychiatry had insistently taught that man was a total and indivisible unit and, therefore, in health and disease, every somatic process at once reverberated in all of the man and notably in his emotions; conversely that every emotional reaction, whether it was violent and pathologic, like rage, or merely a feeling tone, like a mild state of satisfaction, immediately had repercussions in every tissue and cell of the body.

The basic idea of psychosomatic medicine is very ancient. More than 2500 years ago, the wise Socrates, returning from the Thracian campaign, reported that the Thracians realized that the body could not be cured without the mind. "This," he said, "is the reason why the cure of many diseases is unknown to the physicians of Hellas, because they are ignorant of the whole."

Nor was the appreciation of the entwining of the body and mind confined to the elect. From time immemorial it has been reflected in the language of the people: "I felt a lump in my throat"; "My heart jumped"; "My stomach dropped"; "I felt as though I had been pulled through a wringer"; "My knees felt as though they were made of water"; "He did not have the guts to do it"; etc.

The Chinese, no doubt stimulated by frequent food scarcities, have elevated the stomach to a sentimental plane. Two lovers separated from each other might write in this vein: "My stomach is hungry for you." So, too, is there a psychosomatic note in this ancient and beautiful Chinese wish: "May Joy sing in the topmost boughs of your heart."

It would seem that for ages human beings have been trying to tell, first their medicine men, and later their doctors, that their bodies mirrored and expressed their feelings. It is amazing that for such a long period of time we neglected to recognize the obvious relationship between the body and the mind and the unity of functioning.

To psychiatrists, there is nothing remarkable about psychosomatics. In many of their patients, they see it clearly expressed. For instance, in a cataleptic patient, awkward, strained attitudes of the limbs may be retained for periods of time beyond the usual physiologic capacity. In hysteria, there may be deprivation of function, like blindness, deafness, or paralysis on the basis of unsolved mental conflicts. Therefore, of course, psychiatrists can understand readily that backache and headache, nausea and vomiting, tachycardia and a host of other psychosomatic symptoms occur frequently and are expressive of unsettled emotional conflicts. Psychosomatic phenomena are merely illustrative of the well-known fact that an organ or organs may bear the burden of the emotional conflict.

We find there is a good deal of erroneous thinking concerning the significance of mild psychosomatic expressions, like various bodily sensations, perhaps fleeting tachycardia or "butterflies" in the stomach. These sensations do not represent human illness. It must be remembered that the range of flexibility of function of the various organs and parts of the body is very wide and they simply respond by an increased tempo when there is a demand for heightened function. Such demands are frequently made, and somatic sensations in response to emotional happenings in our daily life are extremely common. The various parts of the body are the instruments of the emotions and respond to their behest. If a rubber ball is dropped gently to the floor, it bounces very slightly. But, if it is thrown down with some force, the area of return is much greater. From the standpoint of criteria, one might consider the frequent appearance of various bodily sensations in response to emotional demands as the first level of psychosomatic reactions.

A second, or clinical level, is reached when the psychosomatic symptoms impinge against consciousness to such a degree that they usually call for some medical attention. Even then, no structural disease of the body is indicated. However, it is indicative of emotional conflicts in which no solution has been found. The display of the psychosomatic symptoms is an effort to work out a compromise.

Three simple cases, which have no clinical merit other than that they are commonplace, may be illustrative.

Case I, a man of 50, was married to a woman considerably younger than he. When we saw him he declared himself desperate because he was tortured by the conviction of sexual impotence, for which he had sought medical relief in many fields, and had been given many instrumental treatments, massage, (general and of his prostate gland) electrical, and hydrotherapy. In addition, he had taken a long list of various endocrine preparations. He declared that his impotence was worse and many symptoms had been added: sharp pains in the perineum, burning on urination, nocturnal emissions, headache, great fatigue, inability to concentrate. No one had made any diagnosis of organic disease. Only three interviews were needed to discover at least the outlines of an emotional conflict. He had been unfortunate enough to have a dominant mother and a dictatorial father. Neither of his parents gave him much affection. His chief recollection of his father was frightening family sermons which were tirades against sexual discrepancies, and threats of eternal punishment for them.

His genitourinary symptoms appeared suddenly after an unsuccessful attempt at sex relationship with his wife. He repeatedly said that he felt sure that his wife was impatient with his sexual inadequacy and was irritated at his failure.

Case II, a 42-year-old married woman, had a host of gastrointestinal symptoms, including severe nausea, vomiting, anorexia, backache, headache, dizziness. She described a long list of medical examinations and treatment, several complete x-ray studies of the gastrointestinal tract, various kinds of apparatus to hold up a "sagging" stomach, weekly drainages of the gallbladder. Nothing really helped.

She admitted readily enough that sex was not only distasteful, but extremely repugnant to her. Indeed, she added that she had never had any great interest in sex. Her problem now was to decrease the frequency of the sex act without arousing her husband's suspicions and she expressed a good deal of anxiety that he might find out, get tired of her and leave. From the history there emerged the fact that the most important figure in her life was the memory of her father. Her mother had died when she was a child. She said she adored and loved her father more than anything in the world, and that he was her ideal of a man.

After his death, she married a matter-of-fact but pleasant and intelligent young man, but always felt uneasy in her married life, especially in its sexual segments. As therapy proceeded, she came to understand that she had rejected her husband because he fell so short of the father figure.

Case III, a young student, came to us explaining that he had to leave college because he was sure that he would "flunk." He had a great many psychosomatic symptoms, frequent "head colds," headaches, stuffy feelings in the nasal passages, shortness of breath, chest pains, nose bleeds, loss of weight, and fatigue. One doctor told him that it looked like tuberculosis. He had frequent nose and throat treatments, various dietary regimes, and long periods of rest. Nothing helped.

Even at the first interview, the young student was much relieved because he was able to unburden his mind about his remorse concerning masturbation. In childhood, he had a typically possessive mother who had warned and frightened him about the dangers and wiles of girls. He had discontinued masturbation for a number of years, but resumed it upon entering college, following on the heels of three sexual experiences which occurred in a situation producing embarrassment, inferiority feelings, and fear of discovery.

In the three patients whose conditions have been very briefly described, the genitourinary and gastrointestinal tracts and respiratory symptoms were involved in the functional disability resulting from unconscious and unsolved emotional conflicts. As was stated, these three patients were presented because they were "run-of-the-mill" cases, and belong in the group which is commonly seen by practitioners in every field of medicine. Each one of the patients was enormously helped by means of ordinary, common sense psychotherapy.

The third and deepest level of psychosomatics is that level at which the tissue of the organ finally succumbs to a long period of unconscious emotional conflict. The organs of the body are enormously resilient but they have a limit beyond which they cannot respond without pathology.

One of us treated for several years a very important business executive who finally attained a complete recovery.

Mr. "X" had had a very unhappy childhood. He was an illegitimate child, abandoned by his mother, and never knew his father. In an orphan asylum, he was a silent, unhappy little fellow.

No doubt driven by his ego shame and belittlement he accomplished amazing business success in his adult life. He became a stern, determined, aggressive man. His business success did not bring him happiness and it was obvious from the history that he was a victim of increasing anxiety. In business he was honest, but a "driver," treating his employees fairly enough but without trace of feeling. He drove himself and could not stand it unless he himself knew about every detail of his work.

He married a fine, intelligent woman when he was 40 years old, she being 30. There is little doubt that he felt inferior to his wife. He had not told her his own history and he was extremely uncomfortable when she discussed her own family. He nagged her a great deal about unimportant things, such as small carelessness about household accounts.

He began to develop gastrointestinal symptoms, at first merely vague indigestion, but later on increasing apace, and involving nausea, vomiting, severe pains in the stomach. Many examinations by skilled gastroenterologists did not detect any organic disease. One gastroenterologist advised seeking the assistance of a psychiatrist, but for a long time Mr. "X" declined. He said, "It is all nonsense. It is my stomach, not my head. Anyhow, the psychiatrist will want to pry into my early life."

He felt strange with his two children, one a boy and one a girl. He told us that he felt they preferred their mother to him, and several times wondered whether they might know about his early life.

He had now had his stomach symptoms for almost eight years and was practically never free from them. The eleventh gastrointestinal examination discovered a duodenal ulcer. It was evidence of the fact that tissue too long subjected to the impact of distorted function will finally respond in terms of organic pathology.

About ten years ago, one of us treated a man, then 55 years old, for a flaming red, itching dermatitis. The patient told us he had dermatitis off and on, but this was the first time that it became widespread and even threatening to his life, since infection had developed.

This patient was a bachelor, always closely attached to his mother, and she holding on to him with strong emotional tentacles. Several times he contemplated marriage, but each time his mother adroitly side-tracked the affair. At each of these times he had an exacerbation of his dermatitis. Finally, he settled down to a round of mild pleasures, golf, bridge, occasionally the theater. He liked to converse with women socially, but had no sex interest. (He was latently homosexual.)

More and more, his mother became the central interest of his life. He did all sorts of things for her, both in the nature of business affairs and personal services. Even if she was slightly ill he was tremendously worried. At these times, his dermatitis became worse.

At an advanced age, his mother died of a stroke. Again the dermatitis became marked, but under skillful treatment it subsided. He now devoted himself to the settlement of his mother's estate and it was evident that he prolonged this as long as he possibly could. Finally, the final papers had to be signed at the insistence of the Trust Company, and in a few days the rash had enveloped his entire body.

The two patients whose cases have been cited represent an important segment of psychosomatic medicine. It is the territory in which function has been too hard pressed and for too long a period of time. Even the very wide limits of tissue flexibility had been exceeded and some part of the organ had to be sacrificed. In one patient, there was a duodenal ulcer; in the other, a serious dermatitis.

Incidentally, the skin is a very sensitive emotional barometer. It blushes with shame, and blanches with fear. It is, therefore, not difficult to realize that it should show marked sensitivity in the face of inner emotional conflicts.

One of the most interesting considerations in the area of psychosomatic medicine still to be solved is a study of the factors which determine the location of psychosomatic symptoms. In our brief discussion, we have presented five patients whose symptoms involved (a) genitourinary, (b) respiratory, (c) the skin, and (d) two, the stomach and intestines. In a great number of other patients, the heart and blood vessels react. Or it may be the muscles, bone, joints, ductless glands and, indeed, any part of the body, and even its appendages, the hair and the nails. Some years ago, one of us attempted to treat a very frightened, insecure man who was quite overwhelmed by his responsibilities in life, which included a tired, sick wife and three very noisy children. Five times he became completely bald, but, unfortunately, his hair grew back only four times.

We have reserved for this time one important item in the history of the dermatitis patient. As far back as he could remember, even in his childhood, his mother had had skin rashes, probably due to allergy.

We wish to emphasize what we believe to be a factor in the determination of the location of psychosomatic symptoms, that is, the deep emotional impress during childhood of sickness in some member of the family. We have had several instances of patients who showed marked psychosomatic symptoms referred to the heart, including angina-like pain, dyspnea with the least exertion, inability to lie on the left side, and constant disturbing feelings in the region of the heart. In none of these patients was there organic heart disease, but in each of them there had been actual cardiac illness with fatality in some member of the family. In two of them, the heart catastrophe had occurred in their presence when they were children.

Another factor which is not conveyed by the word psychosomatic is the environmental influence in the "selection" of the locus of the psychosomatic symptoms. The occupation may be very influential, as in "writer's cramp." Furthermore, personal and social and vocational environment is a factor to be carefully considered. Some years ago, one of us proposed that the word psychosomatic be changed to "psycho-enviro-somatic."

The workers in the psychosomatic area attempt to interpret the meaning of psychosomatic symptoms with the goal of predicting the kind of psychosomatic manifestations that may be anticipated in various physical and personality patterns. Already considerable progress has been made. These investigations will be of great value not only to psychiatry, but to internal medicine in all its ramifications.

Finally, in attempting to shed more light upon the problem of determination of the locus of psychosomatic symptoms, one may well think of man's phylogenetic past. For instance, the heart was the organ of life and strength. Primitive man ate the heart of the brave enemy he had killed in order to give him more endurance and courage. In our dim past, the sexual organs were symbolic of power. It is interesting to note that genital psychosomatic symptoms are frequently the camouflage for unconscious fears of decreasing confidence and success in life.

The gastrointestinal tract in primitive man was literally the organ of survival. The amount of food he could get into his stomach often meant the difference between life and death. In this connection, it is again interesting to note the enormous amount of advertising propaganda devoted to the life-giving and life-lengthening properties of an innumerable number of patented foods.

Apparently, too, the preponderance of psychosomatic symptoms in one area or another may shift in a short period of time. In World War I, the larger number of psychosomatic symptoms in soldiers were cardiovascular. In World War II, they were gastrointestinal.

Finally, we earnestly hope that the interest in psychosomatic medicine will stimulate the development of new ventures in the undergraduate teaching of medicine. We are inclined to think that medical teaching, splendid as it is, is still too static and too unrelated. Not that it is possible to know too much about physical function, but it is equally important to understand total functioning. It is unfortunate that the impact of psychiatry is not positive enough in the first two years of medical studies. This is the time when it is most urgently needed. There is involved the danger that the doctor will think too restrictedly of human disease only in terms of tissue inflammation and destruction. It would be most unfortunate if the physician became insulated against the teaching of psychologic medicine and valued only those things which can be demonstrated under the microscope or by a chemical test. Unquestionably, more than 50 per cent of human sickness is largely "functional" in origin.

The ideal physician is one who is not only well trained in anatomy, physiology, and bodily chemistry, but who is ever alert to the psychiatric implications of human disease. This complete physician, when he makes any examination, even such a simple one as counting the pulse, has in mind not only the possible organic implications, but also the possibility of hidden mental conflicts which are so motivating in the production of sickness.

If the loaf of medical practice is to be thoroughly leavened, the medical students must be given from the very first week in medical school the opportunity of studying all of man, and not only a hypothetical physical half. It is a consummation devoutly to be wished.

CHAPTER 13

"SUPPORT" PSYCHOTHERAPY

It would be a grave error to assume that the majority of patients who are functionally sick could or even should be treated by formal psychoanalysis. An earnest, hard-working analyst can treat about eight patients a day, devoting an hour of his time to each patient. Since many of these situations are quite intricate and involved, the treatment time is apt to be about three years, and sometimes more. In view of the fact that there are hundreds of thousands of psychoneurotically and psychosomatically sick people who need treatment, it is clear that psychoanalysis can make only a limited treatment contribution. Nevertheless, it is very important.

Even if the time factor did not make it physically impossible, there would be still many good reasons why many of these patients need not be treated by lengthy free-association, dream analysis, and the like. In many functionally sick people, the material of the conflict is relatively near the surface, and more simple methods of psychotherapy will suffice to bring its important elements into the light of consciousness. In another group of patients, the pressures from the external world, from their environment, are so severe and marked that they can be dealt with more directly. We had a patient who discovered the infidelity of his wife in a highly shocking and dramatic manner. At the same time he sustained severe losses in his business. Furthermore, his only son came down with tuberculosis. While it was true enough that these painful experiences did reanimate a pattern of his childhood during which his ego suffered a severe trauma because of the desertion of his mother by his father, nevertheless when psychotherapy was directed in considerable measure at the presenting situation, he did make a satisfactory recovery from a host of psychoneurotic and psychosomatic symptoms. He has remained well for many years.

Furthermore, in functional illness, as in sickness expressed chiefly at a somatic level, there are certainly some patients who cannot recover, no matter how brilliant the diagnosis and treatment may be. These patients cannot be abandoned therapeutically. In this group, good, sound "support" therapy makes a tremendous difference, and often enables them to make satisfactory compromises and lead useful lives. Otherwise, they would unquestionably be not only ineffectual, but their lives would be a sordid record of self-degradation and misery. In this category there are many overt homosexuals who though their sex pattern cannot be magically reversed, still need much understanding and therapeutic support. This they receive from the wise psychotherapist.

We have qualified the psychotherapy we are describing as "support" in order to distinguish it from formal psychoanalysis, which might properly be called "target therapy," since its main purpose is to unearth as completely as possible the hidden psychopathology. On the other hand, it would be an error to think of psychotherapy as something to be disdained. By no means does it consist of vague encouragement and the utterance of some Pollyanna bromides. It contains many important facets of treatment. Likewise would it be a mistake to feel that "support" therapy does not often unearth much hidden psychopathology. If skillfully used, it almost always traces the main outlines of the underlying mental conflict, and sometimes it penetrates it quite deeply. The psychotherapy we have in mind is the kind that will be and should be practiced sometimes and often by psychiatrists and by general practitioners, internists, obstetricians, gynecologists, dermatologists, surgeons, and indeed, by all complete doctors. It must be understood that in order to practice any kind of psychotherapy, there must be available a dynamic concept of the operation of the repressed mental conflict, of the workings of the so-called mechanisms of defense which are used by patients in shaping the symptoms of their functional illness, and in general, there must be a working hypothesis of human psychopathology. Certainly this is not too much to expect. The physician could not treat human illness at the physical level unless he was conversant with anatomy, physiology, chemistry, and the pathology of diseased tissue.

It is difficult to present a satisfactory definition of psychotherapy. Above all things, it should be broad and inclusive. Some years ago, one of us proposed the following definition:

"Psychotherapy is any legitimate measure of treatment emerging from the relationship between patient and doctor which improves the understanding and attitude of the patient toward himself, toward his illness and toward his environment in life."

In all methods of psychotherapy there is a constant interaction between the patient and the physician. The qualifications needed by the doctor in order to practice psychotherapy have never been sufficiently stressed. This is a good place to begin speaking of these qualifications, and they will be enlarged throughout this chapter until a fairly complete picture of the kind of man the therapist should be emerges. It would seem to go without saying that he should be interested in people. The very fact that he has studied and practiced medicine, which is the most self-revealing of the human disciplines, would seem to make it obvious. The psychotherapist should have at least a minimal satisfactory degree of emotional maturity. While his attitude toward his patients must be objective, yet he can have and should have a warm interest in their problems. He should have considerable understanding and insight into his own life, his own difficulties, and the weaknesses of his own personality. He should have humility—the real humility that should come to anyone who is permitted to explore the human psyche.

Generally speaking, some of the first steps of psychotherapy emerge from the physical examination. It is trite but true to observe that the physical examination may sometimes surprisingly reveal tissue pathology of organs so that the treatment will be chiefly directed at the physical level. Sometimes, too, there are other amazing results of a carefully conducted physical examination. An allergist we know claimed that he saved a marriage of two young people by discovering that the husband was allergic to the face powder which his wife used. Be that as it may, the attitude of the psychotherapist toward the physical examination is one of alertness, and he is always ready to turn his findings into useful therapeutic channels. Sometimes a good physical examination may satisfactorily dispose of mild neurotic or psychosomatic symptoms if the source is not too deep. But when the psychotherapist feels justified in doing this, he must not be hesitant and vacillating. If, for instance, there is a mild heart murmur, he should not be led into speculative theoretical thinking by his patient—"Sometimes even famous heart specialists make mistakes"; or, "Sometimes their machines do not show everything"; or, "Every day in the newspapers you read of people dying suddenly of heart disease which they did not know they had." If the therapist teeters back and forth and is uncertain himself, then he cannot hope to dispose of even the mildest neurotic symptoms by the results of the physical examination. But if he is clear in his own mind and firm, then he may often accomplish a great deal.

Sometimes relatively small physical situations become important. Obesity in a young girl, a skin eruption, some small physical deformity, like outstanding ears and a host of other things, may not in themselves seem highly significant but the psychotherapist may realize from his understanding of what is in the psyche of his patient that such small findings may be very important in the illness. And then he may gain a great deal of therapeutic ground by having the small difficulties corrected.

The majority of analysts do not feel that they should personally make a physical examination of the patient because of the danger of creating emotional dependency. This makes relatively little difference so long as a thorough examination has been made by someone. Some analysts, properly enough within the framework of their dogma, do not feel they should even write a simple prescription for a patient, also because they wish to preclude any possibility of too great emotional dependency. We have no criticism of this attitude, but occasionally it does not work out just as might be anticipated. One patient we knew felt that the analyst was unwilling to write a prescription for a cold she had because of his tremendous personal concern about her. Of course, this was corrected in the further course of the analysis.

At this point, it might be well to describe our feeling about the attitude of the psychotherapist concerning the administration of drugs, the utilization of any legitimate method of physical treatment, even occasionally a minor corrective surgical operation. There is no reason whatsoever why the therapist should not avail himself in ordinary psychotherapy of the advantages of medical progress in these fields, but there is one condition which he must always observe. Never must he let the patient believe that the medicine that is prescribed or the physical treatment that has been advised can be in itself curative of the psychoneurosis. The patient must understand thoroughly and at all times that the relief of the psychoneurosis depends upon the uncovering of the inner mental conflict and its understanding by the patient. If this is quite clear between patient and physician, then various pharmacological and other treatment procedures fall into their proper role. That is, the relief or improvement of some existing and troublesome symptoms.

A simple but sometimes important facet of psychotherapy is reassurance. This does not mean the kind of cheering up that many of us constantly utilize in hit or miss fashion in dealing with our friends who perhaps are troubled about something. If reassurance is practiced with some understanding of the nature of the underlying mental conflict, then sometimes such a simple observation as "You look fit and strong today" may do a great deal of good. This was illustrated in one of our patients with whom we had made considerable progress in therapy, and in whom much of his psychopathology was concerned with a hangover of childhood-implanted ideas as to the baneful physical and mental effects of masturbation—fatigue, loss of strength, bodily decay, and insanity. This harmful complex was impressed on his personality by a well-intentioned but ignorant, severe, and frightening father. As mentioned, we had made considerable progress, and the patient had arrived at excellent intellectual understanding of his problem. So that when the therapist said to him, "You look fit and strong today," the patient knew that he was simply reassuring him about something they both understood and had been almost overcome. It goes without saying that reassurance must be contained within the framework of truth. We have been very much impressed by how much can be accomplished within the area of truthfulness, even at the first interview. Very often it is possible to strongly reassure the patient about mistaken ideas that he has had about inheritance, about the fact that he is not in danger of mental disease, and that he has an excellent chance to get well. Often, too, the therapist can accomplish a great deal by reassuring the patient about certain guilt feelings (if their source is not too deep) such as may come from so-called "abnormal" sex thoughts which are not abnormal at all. Or if the patient feels very guilty because of his fear that he has wished for the death of someone in his family, or someone very close to him. A simple, reassuring discussion concerning the fact that death wishes are certainly not uncommon in human beings and do not set him aside as a potential murderer are very helpful.

Skillfully used, occupational therapy is a valuable medium of psychotherapy. As often as possible, it should be directed at the inner mental conflict, and sometimes it helps to correct it. Of course, the attitude of the psychotherapist concerning occupation should never be what is still too commonly expressed by many lay people, "You are just neurotic. All nonsense. What you need is good, hard work." Thoughtfully viewed, occupation accomplishes a number of things in therapy:

1. Since it is the symbol of real, everyday living and reality, it blocks the retreat into unreality.

2. Occupational therapy often joins the battle with one of the significant aspects of the patient's personality reactions. For instance, in a patient who is very inadequate and inferior and has a large amount of masochism in his personality, it may be necessary at first to prescribe occupational therapy on a very simple level, perhaps the weaving of a rug. To give such a patient intricate, complex occupation, even though he was quite capable of doing it would often be a mistake. The progress of any patient therapeutically can be measured by the increasing complexity of the occupational therapy which he does with satisfaction. In a general way, work that is done with the hands is more useful than purely intellectual exercises. For one thing, the thing that is made stands as concrete evidence of reality.

3. Not too infrequently, the occupation may be directly antidotal to the unconscious facets around which center a great deal of guilt and tension. One of our patients was very much helped by making Braille books for the blind. In this period in her treatment, she did not realize that the occupation was so helpful because she had been carrying the burden of strong and repressed guilt feelings centering around the supposed "neglect" of her old mother, who died blind and mentally sick.

From time to time, the occupation prescribed may be almost directly and dramatically curative. We have cited the instance of a patient, a sculptress, who for many years suffered from migraine, and who was "magically" cured when at the beginning of a severe migraine attack she modeled, beautifully, a female figure being crushed by a comparatively huge fist.

All in all, when the therapist suggests some particular occupation for a patient, he has in mind a great deal more than merely helping to pass the time. He is suggesting this or that occupation from the plateau of his understanding of the conflicts and problems of the patient and skillfully using occupation to strike a therapeutic blow at the conflicts and to strengthen the ego.

In psychotherapy, entertainment, diversions, hobbies, and avocations occupy a smaller, but otherwise much the same kind of an area as does occupational therapy. Occasionally it is possible to utilize some of these adjuncts more or less effectively in dealing with some perspectives of the mental conflict. Levine,[1] who has made a magnificent contribution to the better understanding and practice of psychotherapy, tells of the usefulness of such hobbies as the study of natural history in combating the fear and guilt revolving around unsatisfied childhood sexual curiosity. Levine also gives a case history, which we briefly summarize, since we have encountered many similar ones in practice. A woman who was somewhat immature, but not markedly so, made a satisfactory marriage which gave her a happy and complete life with her husband and children. As the children grew up, they married and left home, and she then developed a group of neurotic symptoms, including fatigue, fear of being alone, and many psychosomatic symptoms. It seemed clear enough that these reactions represented inhibited hostility and anger against her children for leaving her, and constituted an unconscious effort to hold her husband closely bound to her. The point is that the psychotherapy included a development of an active interest in women's clubs, and particularly those which had energetic programs designed to help children, in which the patient participated.

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[1] Maurice Levine, "Psychotherapy in Medical Practice," The Macmillan Company, New York, 1947.

Perhaps we might point out that here one gets a clue to another qualification of a good therapist. Therapists, like all human beings, have their likes and dislikes, and even some mild biases and prejudices. They may not like this or that, for instance, they may dislike women's clubs, but, on the other hand, it is the measure of the psychotherapist's maturity that he freely utilizes even the measures which he somewhat dislikes, if they are needed to help his patients.

The psychotherapist may find it advisable to prescribe a schedule of daily routine of activities for some of his patients. The judgment he uses here is somewhat akin to the judgment of the orthopedist, or some other physician who might employ certain support measures in the treatment of various muscular and bone difficulties. Some patients do better without artificial aids of this kind. Others need them for only a short time. Many patients need them for some period during their treatment. The same is true in psychiatry. Quite a number of patients accomplish much more satisfactory progress without resort to such measures as a daily schedule, since they feel an ego pride in doing much of the job on their own. Others do need such supports for a time. A schedule of activities is sometimes quite useful when there is morbid indecision which paralyzes activity. The direction in the schedule to do a certain thing from 3:00 to 4:00, perhaps take a walk, backed by the authority of the therapist, may be sufficient to help through what would otherwise have been a most difficult hour. All in all, here, as in many other areas of psychotherapy, the attitude of the therapist is much like that of the wise father in dealing with a child. At first he may help to a considerable degree in the making of decisions, but as rapidly as possible he puts the child in the position of making his own decisions. And, of course, the chief objective of a schedule is to teach the patient to do without it.

Here we are presented with another opportunity to expose another needed characteristic of the good therapist—that is, his general attitude toward his patients. The therapist is not a man of perfection. He carries his own difficulties with him, and he does not leave his own life experiences and his reactions to them outside his office door. In a general way, such experiences have crystallized into one of two personality shapings. In the one instance, there is danger that he may have far too much sympathy for the weaknesses and frailty of his fellow-men, in a degree which is not really sympathy but sickly sentimentality. In the other, he may have too high a regard for the ideal of self-reliance and strength which he has erected in his own life. Unless he had the insight into himself which comes from emotional maturity, he would be in danger of helping and supporting his patients too much, or its opposite, he would not give his patients enough understanding and support.

While there is no place in psychotherapy for the use of fear or threat or rigid authority, nevertheless, there are certain situations in which the experienced psychotherapist may wisely decide that in dealing with certain symptoms his best course is to ignore them or to make some display of authoritative firmness. This is chiefly true in those patients in whose illness there is a large segment of regressive manifestations, usually resulting from too much spoiling or frustrations in their childhoods. Such patients, in their efforts to demand a maximum of attention and concern from the therapist, may sulk, cry, scream, go into storms of rage, exhibit childish tantrums of jealousy, stage obviously feigned convulsions, or make pseudo-suicidal attempts. One of us had a patient, a girl of 16, who produced on the spot in the office a convulsion which would have put to shame a real epileptic convulsion. She was simply told firmly to stop it and get off the floor, which she did, without further protest, remarking, "Let's forget it." Another, a boy of 18, drew out a razor blade, saying he was about to cut his wrists. The therapist picked up a medical magazine and began to read it, and presently the young man tossed the razor blade into the wastebasket. However, it requires some experience to know just when to ignore certain regressive symptoms, how to ignore them and how to use permissible authority. If the patient senses doubt and alarm on the part of the therapist, then a very difficult dilemma is created. The patient now has a weapon which he will use freely, or perhaps the patient becomes panicky, believing that the doctor fears that the symptom is the hallmark of some serious organic disease. Again, in the ignoring of symptoms or the display of authority, the therapist is like the wise and kind father in dealing with a child who is behaving very badly—firm, not very much upset, never cruel or contemptuous.

Suggestion is probably the least effective technique of psychotherapy. In a way, this is unfortunate, since all human beings are suggestible and many sick human beings are markedly suggestible. Too, the first effect of suggestion is often dramatically serviceable. However, the disadvantages of suggestion are very serious. Even though it may be staged in the modern setting of an electrical spark or some other device, yet suggestion is still too reminiscent of the ancient medicine man with his props and his rituals. Furthermore, suggestion makes too direct an appeal to the emotions of the patient, and often merely displaces one illogical idea with another one that is equally without logic. If the patient who is aphonic can speak after application of electricity in some form, he is then very apt to believe that the electricity cured the aphonia, which is just as mistaken as the belief that there was actually an organic loss of speech. Suggestion carries with it the danger that the patient will, sooner or later, discover the deception, and the only satisfactory framework in which psychotherapy can move is one of mutual trust and confidence. Finally, suggestion does make an appeal to emotional immaturity and encourages strong emotional dependencies. Particularly in the early stages of treatment many patients are looking for a "trick" or magic treatment of some kind which will relieve them of their symptoms.

Within the framework of honesty, suggestion does have some place in psychotherapy. It may be employed to remove a symptom which is blocking treatment, like aphonia or deafness. Sometimes, too, it may remove a psychologic block. One of us has occasionally employed a single modified electroshock for this purpose. In one of our patients, a very intelligent young woman who had a rather serious anxiety neurosis, with some overlayer of depression, progress in therapy was not very rapid. This made the patient feel quite guilty. She felt that the explanations made were quite understandable and complete, and that she must be very "dumb" not to be able to put them into effect. She even developed a little self-blame. After explaining electroshock to her thoroughly, and making it very clear that it could not cure her of her psychoneurosis but might increase her spontaneity, she was given a single treatment, and after that the therapy moved on much more rapidly to a complete recovery.

Hypnotism is a highly specialized form of suggestions. Some psychiatrists utilize it in actual treatment. We have found it more useful, from time to time, as an uncovering technique, in other words, as a method of gaining more understanding of the underlying psychopathology. In any event, if it is used, it should be divested of its "supernatural" qualities, and should be put on as scientific a basis as is possible.

In every patient, the therapist must perform the not always easy task of making a judgment as to the relative amount of internal and external strains and pressures, and their seriousness. Repressed material was once actual in the life of the individual and had some representation in consciousness. Usually, material so highly charged that it must be repressed has been impressed into the personality during childhood, often because of serious deficits in the child-parent relationship—perhaps deficits in the matter of insufficient love and affection, or too much emotional possessiveness on the part of the parent, and in general, an ignoring of the basic needs and rights of children. Highly vulnerable psychic areas are left in the personality, which may often spread and grow into psychologic malignancy in adult life. We need not describe the nature of external stresses. They concern all manner of things, and often include catastrophic blows of fate. It must be borne in mind that internal and external pressures do not remain discreet from each other, but they merge. An external thrust may operate as a trigger mechanism in bringing internal psychopathology into activity.

We had a patient, a brilliantly minded scientist, who played such an important part in the war that it is still top-secret. His work was with certain lethal weapons, and he accepted this war work against the inner protest of his personality, he being a convinced pacifist. Unfortunately, in a very important experiment made in his laboratory, several of his co-workers lost their lives and a number of others were injured. When we saw him, he had many psychoneurotic and psychosomatic symptoms, the most outstanding being rapid, jerky breathing, like a man struggling for air. He was depressed and filled with self-blame, and indeed, at first we thought he might be psychotic. It was interesting that in the first few interviews, he several times interrupted the story of his symptoms to say, "You know, Doctor, I have never been able to raise a patch of mint." We did not know at that time that he referred to an old New England superstition that a henpecked husband can never raise a mint-bed. He meant us to understand that his wife nagged him about his health and belittled his work, although she was an intelligent woman, who later on became very coöperative. She failed to give him the emotional confidence and support he needed. All this brought into focus a trauma to his childhood ego, when a dominant mother withheld from him the demonstrations of love and affection, probably compensating for it by constantly pestering him about his health. This summarized case history illustrates the interreaction between external pressures and inner psychopathology. The objective of psychotherapy in regard to hidden unconscious mental conflicts is clear enough. To the best of his ability, the psychotherapist must remove from them the veneers that hide them, bring them into the focus of consciousness so that he and the patient may review them together.

The path to pursue about external pressures is not so straight. For one thing, the psychotherapist must make an estimate in each patient as to that patient's ego reaction to inner and outer difficulties. Human beings vary enormously in this respect. Some patients feel that there is no possible excuse if they bend before the external blows of fate—others feel that it is not their fault, since it is visited upon them from the outside world. Some of these patients, however, may blame themselves considerably because their inner personality has been twisted into psychoneurotic patterns.

Here again the therapist must measure his own personality limitations and rise above them in treating his patients. Like other men, he may be a rugged individualist who has never taken nor given himself quarter. If this is so, nevertheless he will be mature enough not to expect it of his patients.

At first glance it would seem as though nothing much could be done about external pressures. Certainly in civilian psychiatry it is not as simple as it was in war, when the soldier who was overburdened physically and mentally with the dangers and conditions of life in the combat area, could be removed temporarily from the battleline. In civilian life, the therapist cannot restore financial solvency to a bankrupt, nor give back to a patient a love object of which he has been deprived by death or rejection. Here the analyst has considerable advantage. He is not at all, or at least not very greatly, concerned about the external conditions of the patient's life. He has placed his stake upon the uncovering of the mental conflict and, besides, as is often true, that with its revealment and understanding by the patient, readjustment will follow.

On the other hand, in ordinary psychotherapy, the experienced therapist can attempt cautious and tactful manipulation of the environment. He may do this in a general way, for instance, as in a given patient there may be severe guilt reactions. It would not be the part of wisdom to attempt to soften his environment too much, since this might only increase the guilt feelings. On the other hand, in a patient who might have repressed deep hostility toward his wife because she is the unconscious surrogate for an insufficiently loving and dominating mother, it might be very good judgment to remove the patient from the home environment and place him for a time in a sanitarium. Here at least there is not the constant "rubbing raw" of his mental conflict by the presence of his wife. With experience there will come innumerable ways in which the surroundings of the patient may be carefully and cautiously modified so that they become favorable to the working out of the difficulty, rather than threatening.

Often in the beginning of treatment patients literally bombard the therapist with requests for counsel, advice, and decisions about almost any aspect of their lives. Here again the advantage is somewhat with the analyst. If he is orthodox in his therapy, he gives no advice nor does he make any decisions. Sometimes we think that this non-counseling attitude is a bit rigid and extreme. Naturally, the psychoanalyst's thesis that to give advice would greatly increase the hazard of emotional dependency is well enough taken. However, we are inclined to believe that if the therapist has a reasonable understanding of the nature of the inner psychopathology and proceeds with care, he can advantageously give a minimum of counseling to his functionally sick patients. It goes without saying that the psychotherapist not being a god nor even a minor deity has no business to make important decisions for the patient about such matters as marriage, divorce, changes in occupation. At most, he can suggest that such important decisions be deferred until the treatment has been completed.

Before the therapist gives advice and guidance, he must consider the personality of the patient and the markings of his own personality. Some patients have relatively strong egos which are only temporarily weakened, and they do much better if they are permitted to work out most of the matters of everyday life themselves. Other patients would fumble about aimlessly and helplessly unless they had a certain amount of wise guidance. The psychotherapist will know from the perspective of his own maturity how his own personality has shaped itself through his experiences in life. He will, therefore, not err either in the direction of being too abruptly and completely decisive or will he withhold help that is urgently needed by certain patients.

An important area in functional illness for psychotherapy is the hidden hostility sometimes expressed as aggressiveness. It is easy to understand that man, from his phylogenetic history and the grim struggle for existence it once involved, should be the natural habitat for hostility. Furthermore, even in a normally mentally hygienic pattern of child-mother, child-parent relationship, it would be impossible to escape the development of a certain amount of hostility in the child. One can well imagine how great is the hostility when the child-mother pattern has been seriously distorted. We are inclined to think that in our culture perhaps too great a value is placed on social conformity in childhood in such matters as weaning from the breast at a certain date or in the production of toilet-training. We know of some neighborhoods where, if the child is perhaps only a few months behind the schedule in the matter of toilet-training, the mother must suffer a certain amount of social criticism and belittlement. The Chinese in their culture go to an extreme, permitting the child to nurse for too long periods of time and paying practically no attention to toilet-training. But perhaps we may learn something from some of the Eastern cultures.

The hostility upon which the psychotherapist focuses is serious and deep and almost inevitably referred back to childhood. One can readily see how it may produce an eruption of serious symptoms in adult life. A child cannot consciously and constantly entertain a hatred of the parents (since they are the two great heroic figures in child life) so that it becomes necessary for such hostility to be covered over by guilt feelings. Very often in psychotherapy it is necessary to bring hostility complexes to the surface so that they may be carefully scrutinized in all their implications. However, the experienced therapist in ordinary psychotherapy is often able to trace enough of the general pattern of the inner hostility so that he may deal with it fairly effectively. Sometimes a phobia of infection and dirt, which is expressed in behavior by keeping the house spotlessly clean, quite excessive of usual cleanliness, may represent inner guilt masking hostility and a concealed death wish, perhaps directed at the wife or husband. We had a 15-year-old girl as a patient who had a tremendous phobia of hands, especially female hands. It filled her with disgust and repugnance the way women "dolled up" their hands, tinted the nails in lurid colors and, as she said, "waved them about constantly to attract attention." She said it nauseated her, made her feel like vomiting. When we had her as a patient, she was in the art class in her high school, and we suggested that she make some drawings of hands. She drew hundreds of them, and they were horrible—swollen and distorted joints, some fingers like the talons of a bird of prey, usually one or two fingers amputated by an eraser. After several weeks, one of us said to her, "Jane, whose hands are these?" With some hesitancy, she answered, "I didn't know at first, but now I know. They are mother's hands." Jane's own hands were rather ugly and scrubby, and she neglected them. Her mother's were beautiful and she took artistic care of them.

Underneath, Jane had a deep-seated hostility toward her mother because she had divorced the child's father when Jane was four years old and had remarried a year later. Her step-father was good and kind to her, but she hated him consciously. As Jane's treatment continued, the drawings of the hands improved very much, and finally, just before she attained an adjustment, they were very presentable and normal looking. Perhaps this summarized case history illustrates one method of attempting to deal with inner hostilities, and it is within the scope and opportunity of the ordinary psychotherapist.

Perhaps, too, it is worth-while remembering that there are general outlets for hostility and aggressiveness, such as physical exercises and bodily activity. It was James who felt that after a lover of music had listened to a moving symphony it would be advisable for him to take a brisk walk. That somewhat immature but very lovable comedian, W. C. Fields, used to write scathing letters of denunciation to many people who occupied high places in the Government, have them typed, and sign them. After a few hours he would tear them up and throw them into the wastebasket. We have heard of a powerful executive who had a deep hatred for Franklin Roosevelt, and who claimed that he increased his golf drive by many yards because he had a picture of the late President stamped on the golf balls he used.

In dealing with hostility, the therapist must look carefully into his own personality. As we have mentioned before, he is a man like other men. In his personality there will be some likes and dislikes and he will have differences of opinion with his fellow men about many other things. However, in the personality of the therapist there is no room for hatred and intolerance. The physician who really hates and is intolerant of others, of Jews, of Catholics, of Protestants, of Negroes, or what not, has not matured enough so that he is fit to deal and attempt to heal the ills and problems of human beings.

The therapist will hear many strange stories from his patients. Often they will be ugly and sordid. Psychopathology, like pathology at the physical level, is not usually a pleasant sight. Nevertheless, it must be very clear that the therapist must be truly non-condemning, non-critical, non-judgmental, accepting though not necessarily condoning in his attitude toward his patients. Furthermore, he must show this not only in the words he utters, but also in his manner and bearing. If he has in his make-up deep-seated intolerance and hate, it will be revealed to his patients, even though his words may be fair and shining.

We repeat that doctors, and even psychotherapists, are human. Like other human beings, they cannot hope to escape occasional lapses in their dealings with their patients, perhaps now and then a little criticism or even a feeling of irritability, or possibly a mildly sarcastic remark. Nevertheless, it is true that if these reactions are too frequent then the difficulty is not with the patient but with the therapist. He may be overworked and tired out. Perhaps he is nonplussed because he has not made more progress in unraveling the patient's difficulties. More often than not, his lapses from psychotherapeutic grace are due to a weak spot in his own psyche which has been touched.

Of course, the psychotherapist of any experience has learned to look beyond surface symptoms. Surface symptoms are sometimes very unpleasant and even horrible, like a distorting facial grimace. But with training in his work and the increase in human understanding that it brings, he will know that often beneath the most unpleasant surface symptom there is a sad human tragedy which calls forth deepest compassion. Human compassion is another important facet of the psychotherapist's personality.

From the relationship between the psychotherapist and the patient, there come many reactions, transference, identification, and others. These, if handled in the right way, become ego strengthening and they will be discussed in detail later on.

Every human being has certain basic physical and psychologic needs. The opportune time for the satisfaction of these basic needs is during childhood. The basic physical needs are simple—such things as food, with its vitamins, sunshine, fresh air, exercise, and so forth. The psychologic needs are not quite so simple, but they are just as definite. As far as they are concerned, unless the pattern of supplying them is begun in childhood, then one may predict at the minimum an unhappy adult life and at the maximum, the development of much functional illness. Among the important basic psychologic needs are the need for security and recognition, again particularly in childhood. If these are wanting, then the ego is weakened by emotional starvation, just as the body would be if there was not enough food. Each child has an overwhelming need for love and affection, both the need to receive it and the need to be able to give it. All of us have a basic need of some satisfaction of our sexual life. Too, there should be opportunity for activity, recreation, and leisure, and there should be a balance between emotional dependence and emotional independence. The need for this is significantly expressed in the marriage of adult life, the success of which in large measure depends on the emotional strength and warmth one married partner can give to and derive from the other. In childhood also there must be an opportunity to extend emotional support to others, notably those we love. And, there must be the opportunity to express some degree of independence, self-assertion, and even a bit of aggressiveness.

I have come to believe that the development of what might be called a normal amount of anxiety is a basic need of childhood, since otherwise the child is not at all prepared for the inevitable anxieties of adult life.

Finally, I do believe that something that might be called spiritual outlook, perhaps with some religious values and convictions, is an important constituent basic need.

An important aspect of the work of the psychotherapist is to measure in the patient he is treating the number and extent of the frustration gaps which exist because basic needs have been left unsatisfied. The psychotherapist, in his work in this area, may be compared to the physician in other fields who finds it necessary to use some form of replacement therapy. Perhaps an insufficient thyroid gland secretion, and so thyroid must be given. Or, after the ovaries are surgically removed because of disease, often ovarian extraction must be supplied. It may be necessary even to make anatomic replacements, as, for instance, if the testicles are undescended or there has been a developmental failure so that the female vagina is closed or malformed. Some of these things may be corrected by surgical intervention replacement.

Just as important is the attempt to supply basic psychologic needs which should have been satisfied in early life. Sometimes the psychotherapist finds in a marriage that one or the other partner is receiving far too little love and affection, with their much needed demonstrations, and if the problem is not too deep, he may help to supply some of this basic need by talking it over with the partner whose pattern in life is too much taking and too little giving.

However, often the problem is more serious. Let us say that the husband is very emotionally immature. Such husbands tend to carry on a campaign of attempting to make their wives into their mothers. We knew one husband who tried to thwart the maternal needs of his wife to the extent of hiding the baby so that she could not find it. In cases of this kind, it is doubtful whether merely talking it over with the other partner will suffice. Quite often it is necessary to advise that such an immature husband or, in another case, the wife, have a series of interviews or even undergo treatment by another psychiatrist. The wise psychotherapist is never led into the situation of actually treating two people closely related to each other, since however fair they may profess to be, they soon will attempt to line up the therapist on one side or the other.

Neurotic needs are very different from psychologic needs. They represent the outcropping of the neurosis and innately they are expressed as selfish desires and even cravings, such as an insatiable demand for constant sympathy or sometimes, conversely, for cruel treatment. It is a difficult matter to attempt to satisfy them, and usually not practical. Generally, they must be dealt with by increasing understanding of their source in the underlying mental conflict.

One may find a physical analogy. If the pathology of diabetes represents the failure of satisfaction of a basic metabolic need, then one may think of the craving for sweets which many diabetic patients have as a secondary and distorted need. To satisfy such appetites would endanger the patient.

Very occasionally, a situation may be found in which, moving very carefully, the psychotherapist may attempt to supply in some fashion neurotic needs. We had a patient, a man of 45, who had never married, and who had lived with his father since the death of his mother when he was a baby. The father and son were devoted to each other, and since they were both lawyers, they had many professional, as well as personal interests in common. Then the father died and the patient broke under a heavy barrage of psychoneurotic and psychosomatic symptoms. Of course, the thing to have done would have been to have led him into a new way of life and a more mature way of life. But this did not prove to be possible. So, we suggested to him that he look up some of his father's old cronies. Among them he found a retired judge who had been an intimate friend of his father's. The judge was a crusty chap, with a forbidding exterior, but underneath he, himself, had a great need for an emotional outlet in life. The two men did not live together, but they established a warm friendship and while, of course, this was not a solution, it did help our patient to a level of living in which he was useful and active and on which he lost his neurotic symptoms. We should have mentioned that our patient was latently homosexual, but there had been no overt homosexuality in his life. He has remained well for quite a number of years.

The ultimate objective of any psychotherapy is to heal and strengthen the wounded ego of the patient. Far too often, even experienced psychotherapists do not realize the tremendously important figure they occupy in the life of the patient who is under treatment. He is apt to be the only source of their strength and hope, the good and wise man who gives them an ideal upon which to shape their lives. In the kind of psychotherapy we are discussing, the psychotherapist strives to achieve only in some limited degree the role of the good father. In formal psychoanalysis, the psychotherapist actually becomes, in the patient's mental life, his parent.

The high points in psychotherapy are confession, ventilation, and the psychiatric interview.

Confession is the story the patient tells the doctor. It has long since been realized that perhaps the most important area of psychotherapy is the opportunity of the patient to tell his troubles to the doctor. Even a single confession decreases and devalues anxiety and tension, sometimes in a degree which is at once obvious to both the patient and the physician. Confession does many other things. It unloads from the psychic chest a lot of material which has been tightly and frighteningly held, and robs it of much of its terror by objectifying it in words. Confession at one and the same time both lessens and punishes guilt. It decreases and dilutes it, since now the material has been shared with someone else, and that someone in the opinion of the patient is a good person, a person of learning and wise judgment. Often the patient learns that the area of his guilt is much smaller than he thought. We have encountered this a number of times in patients who confessed to errant sex thoughts about which they felt very guilty, but which were in themselves not wrong at all. Often the patient feels that he has harmed others far more than he really has. Confession also punishes guilt. It is somewhat shaming and belittling to the ego to reveal its deformities and nakedness to another human being. While it is true that the therapist is not contemptuous, yet neither, unless he can truthfully do so, does he condone. Sometimes the therapist finds it necessary to tone down the confession somewhat. This may happen in patients who have a large area of masochism in their personalities and who unmercifully punish themselves—and unconsciously derive satisfaction from it. Another group of patients is quite exhibitionistic so that they are almost impelled to reveal themselves at what they think is their worst. One of us has a friend who is a Catholic priest and a physician, who tells of a group of people, often spinsters, who confess to imaginary "thought sex sins." In the priest's opinion they had not sinned at all, and while he said to them, "Go in peace, you have not sinned," he felt like saying, "Hurry and finish and give the real robust sinners who are waiting outside a chance to relieve their souls."

Briefly, ventilation takes the material of the confession into the open areas of consciousness and the patient and therapist together view it from all angles and study all of its meanings and implications in the production and building of the symptoms.

The best definition we know of a psychiatric interview was given by our good friend, Dr. Thomas Rennie: "A psychiatric interview is not the same as a social conversation. It is a process especially designed to permit the patient to express anxieties and uncertainties fully and without reservations to the physician who will not interfere or hamper the spontaneity by injecting his own personality or his own convictions into the situation. In essence, it is sensitive, objective, understanding, non-interfering listening."

There is every reason why the first therapeutic interview should be the most fruitful one. Usually the patient comes from a background of many discouragements in attempting to explain his problems and he welcomes the opportunity to unburden himself. Furthermore, and often, a good deal of psychopathology is exposed at the first interview. It is in the subsoil of the consciousness and may be uncovered without too much labor. The patient has not yet identified the therapist in the drama of his life. From time to time we have had the experience with a patient who dwelt for a long time on "gall-bladder trouble" or the "dropping of a stomach" that merely to say to them when they came to a pause, "Now would you like to tell me your real trouble" would bring forth a prompt response, perhaps an outpouring of fear and anxiety; the patient was no longer loved by husband or wife or some similar life problem.

In the usual psychotherapy, the interview is theoretically at least on a conscious level, and the patient tries to tell all he can remember. However, as has been emphasized, many experienced psychotherapists will touch on many levels which are not strictly speaking within the scope of conscious illness.

Among the many things that come from successful psychotherapeutic interviews is an increase in the strengthening of the relationship between the patient and doctor. The patient experiences growing confidence and security. From this relationship there emerges something called transference. But transference is exceedingly difficult to define. In formal psychoanalysis, in a sense it is the love of the patient for the analyst since he has become the figure of an important love object in the patient's early life, often the parent. Sometimes the patient more or less literally interprets this and there may be demonstrations of affection or the day-dreaming of vivid love scenes.

In negative transference the patient may "hate" the analyst and behave accordingly. In analysis this occasions no surprise, and the patient and analyst work through the transference by continued free-association and attempt to bring into conscious view unconscious motivations for the behavior.

In the kind of psychotherapy we are describing, complete transference is not sought for and the degree of transference is usually less. The patient looks upon the therapist as an authoritative, dependable figure, admired and, in a general way, beloved. The therapist in the mind of the patient is a person who understands and who has accepted him and wants to help him. In general psychotherapy, there is a definite attempt to keep the transference at about this level.

For a long time we have believed that something may be learned by a comparison of psychotherapy, even including analysis, with the Sacrament of Penance of the Roman Catholic faith.[1] At the first perspective, psychotherapy and particularly psychoanalysis and the Sacrament of Penance are quite in opposition to each other. As Father White pointed out, the penitent kneels on a hard, wooden bench; the patient reclines on a couch. More importantly, in psychotherapy and particularly in psychoanalysis, there is no definite form, or at best, a very loose procedure. The therapist lets the patient drift about in this direction or that, and does not attempt very often to hold him to a formalized method. Contrasted to this, the Sacrament of Penance has a very ancient form. The penitent makes a verbal confession to the priest. He feels and experiences sorrow to God for having offended, and finally he feels and expresses a purpose of leading a better life. Then, according to the dogma of his Church, the priest grants absolution and imposes a penance.

Next, the material in psychotherapy and in the Sacrament of Penance is quite different. The Sacrament considers chiefly conscious things—malum culpae—which is the evil that men do wilfully. In psychotherapy it is a matter of malum poenae—unconscious evil, the evil that men suffer. Here are included things that happened to us in life, involuntary misfortunes, thoughts, behaviors, emotions, unconscious conflicts, and more or less things which cannot be helped. In his administration of the Sacrament of Penance, the priest has again, according to the dogma of his Church, certain powers. For instance, he can forgive sins or withhold forgiveness; he may insist that the penitent make restitution for his behavior. It is within his power to give much advice and counsel, particularly about what are called "occasions of sin," which in a way are situations in which the penitent has placed himself unnecessarily and in which there is great temptation to sin.

Neither the general psychotherapist nor the analyst attempts to exercise any power to forgive. Furthermore, while they are interested in the external conditions of the patient's life and may cautiously try to adjust them, yet they, and notably the analyst, do not give much definite advice and counsel.

Actually, the orthodox analyst gives none and his interest in the external factors is chiefly as to how much they may have contributed to the formation of the unconscious conflicts.

Viewed from certain other perspectives, psychotherapy and sacramental Penance are not so totally different as one might infer. The conscious and the

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[1] For some of our thinking along these lines, we are deeply indebted to the masterly essay of Father Victor White which appeared in *Commonweal*, July 23, 1948.

We have sketched only a few of the things that happen in the relationship between patient and therapist. There are many sources of treatment available to the therapist. A much-neglected field is bibliotherapy, in which by the selection of material, not only and perhaps not chiefly from psychiatry, but from the literary masterpieces of all ages, is very helpful. In one sense, they are literary masterpieces and have a universal appeal because they express at least one quality of genius, the capacity to utter eternal truths without fully realizing their important significance and wide meaning.

Group Therapy. From time to time, group therapy has been mentioned. It is a developing facet of psychotherapy which promotes general discussion and desensitizes the patient because he comes to realize that some of the symptoms and problems which he thought were unique with him do often occur in other patients. The dynamics of being in the group brings about definite beneficial changes in ego strength. The exact mechanism of these changes and the nature of the dynamic forces are poorly understood at this time. In spite of the newness of this therapy it is a useful and powerful therapeutic tool in skilled hands.

CHAPTER 14

PATHOLOGIC DRINKING

All in all, the psychopathology of pathologic drinking is not very well appreciated; taught rather indifferently to medical students, and the therapy which is employed still tends to be too naïve and directed at temporary expediencies.

The history of alcohol is coextensive with the history of the human race. The deciphering of tablets of great antiquity indicates that the Egyptians and other ancient peoples enjoyed beer. Rome was drunk not only on its military victories but also on its wines. From cereals and honey the barbarians from the North brewed a delectable beverage called mead. The Caledonians, no doubt seeking to offset the bone-penetrating chill from the fogs that hung over the moors, produced the now highly prized Scotch whisky. Before his white brother bartered beads and "fire-water" for his hunting grounds, the North American Indian concocted an evil and potent beverage from the gall of freshly killed elk and buffalo exposed to the heat of the sun.

Anything which persists through the ages, surviving legislative and other efforts to eradicate it, must be motivated by a powerful driving force. The reason that the use of alcohol by human beings has persisted down through the centuries is because of the quality it has of rosily blurring the hard, unpleasant, and forbidding outlines of reality, and if taken in sufficient quantities, it has the power of effacing reality altogether. *It is fantasy in a bottle.* When one adds to this the facts that alcohol is readily obtainable, produces its effects quickly, and at least for a long time its devotees escape social stigma, then one might understand why alcohol is such a tremendous economic, social, ethical, and medical problem.

Alcohol is always a narcotic, and its reputation as a stimulant rests on the inhibitory release which it promotes. Helpful parallels may be found in the symptoms due to pathology of the frontal lobes of the brain, or in the behavior which follows in the wake of extensive frontal lobe surgery and in the phenomena of the manic phase of manic-depressive psychosis. In these situations, as in alcoholism, there is loss of inhibition, abolition of self-critique, and in general, regressive behavior.

Even in a social gathering which is only comparatively mildly alcoholic one may readily observe the regressive behavior so quickly achieved through alcohol. Portly, middle-aged dowagers and gentlemen even older, with some of the infirmities of their years, from their conduct after a half-dozen drinks, obviously are re-enacting, albeit not very convincingly, occurrences from that remote day when respectively they were beautiful and slim young debutantes and gallant young "bucks."

Frequently, in other situations, complete shedding of all adult responsibility may be observed so that the drunkard becomes as helpless as an infant with profound loss of control, even involving the physical functions of the bladder and the bowels. From careful consideration of the vast amount of human material available for study, it becomes increasingly evident that alcohol in excessive amounts is the most commonly utilized technique to accomplish unconsciously an escape from mature responsibilities.

Limitations of Chronic Alcoholism. The understanding of chronic alcoholism has been much impeded by the heterogeneous collection of clinical material loosely designated "alcoholic." By no means is every man who gets drunk occasionally an alcoholic. Furthermore, in psychiatric territory, there are many patients—paretics in the early stages, mildly depressed patients, manics, psychopathic inferiors, morons and many others who may drink alcohol in excess and yet are not basically alcoholic. In many of these situations the alcoholism bears about the same relationship to the basic situation as does headache to tumor of the brain. It is a symptom. This brings up the important consideration as to the clinical evaluation of chronic alcoholism or pathologic drinking.

Nature of Chronic Alcoholism. We can scarcely believe that pathologic drinking is due to a somatic pathology. In spite of the wealth of organic morbidity in alcoholism, its specificity is more in question today than ever before. Even cirrhosis of the liver, which was one of the important supports of the pathology, has not survived very well the inquiries of scientific research. Researches into the chemistry of the vitamins has made further inroads into the postulated pathology of alcoholism. Possibly in delirium tremens and polyneuritis and other conditions, the vitamin deprivation is a more essential condition than the alcohol itself.

While there are a number of psychoses determined by alcohol, yet in our opinion chronic alcoholism is not a psychosis. The transitions into unreality are too abrupt and too frequently repeated. For a long time the contact with reality is too tenuously maintained and is much more reminiscent of a psychoneurosis than a psychosis.

In effect, we believe that chronic alcoholism is a psychoneurosis. Further, it is preponderantly the psychoneurosis of the introvert, the shy, reserved, diffident individual who tends to be socially awkward and acquires social facility and graces only with the greatest difficulty. At some time in his life he desires above all things social ease and popularity. Soon he discovers that a few cocktails or other alcoholic beverage will melt away his reserves and not only will he feel more secure socially, but he will even begin to enjoy the society of his fellow men.

Thus the alcohol is used to escape reality, just as psychoneurotic symptoms unconsciously are employed for the same purpose. This becomes very evident in observing the large segment of rationalization in the psychoneuroses and in alcoholism alike.

The psychoneurotic patient is "sick" and cannot meet the requirements of everyday reality because of headache, ear noises, vertigo, nausea, vomiting, tachycardia and so forth, which are functional; that is, derived from emotional conflicts and not produced by structural pathology. When he gives his "reasons" for his excessive drinking, the pathologic drinker exhibits extreme rationalization. He drinks, for instance, because he has had financial losses, because his health is poor, because his wife nags him, because his children disobey, even because the weather is cold and damp. These rationalizations, like the symptoms of the psychoneuroses, constitute screens unconsciously utilized to prevent an honest facing of real basic issues.

Finally, fairly frequently I have observed the substitution of psychoneurotic symptoms for periods of alcoholic excess and vice versa. When the psychoneurotic symptoms were in the forefront, there was abstinence from alcohol, and when the alcoholism occupied the center of the stage, there was no evidence of psychoneurotic symptoms.

Etiology of Alcoholism. Akin to the psychoneuroses, the basis of alcoholism is *emotional immaturity*, and again reminiscent of the psychoneuroses, the immaturity is rooted in childhood. A case study of our records shows a very common situation in our alcoholic patients during their childhoods: Parental dominance, usually "loving" dominance, was present. Deprived of the right and practice of learning to make decisions, emotional growth lagged and when adult years were attained, the individuals were illy equipped for the give and take of personal and social relationships. They became nonplused, thwarted and frightened. Soon they discovered temporary confidence and security in alcohol and then alcoholism was in the making.

The psychoanalytic school believes that alcoholism is derived from latent homosexuality. Unquestionably a certain segment of alcoholism has such an origin. We think it is a relatively limited segment. It seems to us that much more usual is latent heterosexuality. This is part and parcel of the emotional immaturity; a casual flitting about sexually, constituting an evasion of the mature responsibilities of sex—home building, children, participation in their training and development.

Identification of the Alcoholic. Apparently because of the insult to his ego, the acceptance of the fact (often obvious to everyone else) that he is a pathologic drinker is exceedingly difficult. Since pathologic drinkers are recruited from the ranks of social drinkers, it is important to note the signs of beginning addiction and to heed their significance. The volume of alcohol consumption increases; the hours of the day which formerly were nondrinking hours are progressively encroached upon by repeated libations of alcohol; the individual begins to outdrink his companions and particularly just before the group leaves, he imbibes a number of drinks in very rapid succession; a potential alcoholic begins to take morning drinks and to drink alone.

When these departures from the social drinking pattern become frequent and serious the drinker is in a fair way of becoming a chronic alcoholic, that is, a man who cannot face reality without alcohol and whose adequate adjustment to reality as long as he uses alcohol is impossible.

Therapy. While pharmacology has an important role in the treatment of the complications of alcoholism, it is extremely dubious whether drugs may ever be expected to cure the alcoholism itself. For convenience, the treatment of pathologic drinking may be divided into four categories: (1) The rules, (2) psychologic aspects, (3) re-educational, (4) physical.

Any plan of treatment which depends largely upon the coöperation of the patient must lay down a few conditions.

I. On the patient's part, as a condition of treatment, there must be at least some minimum of understanding concerning his alcoholic situation; some recognition on his part of the need for help and some desire to be helped. Therefore any bullying, overpersuasion or tricking the patient into taking the treatment should be discouraged. If the patient "agrees" to accept treatment perhaps because his wife has threatened him with a divorce unless he will undertake treatment or his father holds the sword of disinheritance over his head unless he is willing to be treated, then the re-educational plan is doomed to failure.

II. An honest willingness to try to remain abstinent from alcohol during the treatment. Of course, there is no attempt to extract promises from the patient or to obtain pledges.

III. Frankness in all dealings with the therapist.

IV. The patient must agree that if a relapse occurs he will notify the therapist or see that he is notified as soon as possible.

This is quite important, since the analysis of a relapse, the conditions under which it occurred, and the situations which seemed to precipitate it contain much that has real treatment value.

In a recovered group of patients, irrespective of the duration of the alcoholism, the number of relapses averaged less than three per patient.

Psychologic Therapy. I. It is psychologically important that the attitude of the therapist be unemotional, impersonal and objective. The patient has lived in a very different atmosphere. He has been constantly watched; praised and blamed; rewarded and threatened. At first he is nonplused at the attitude of the therapist. He expects and unconsciously hopes to be treated like a child, not like an adult. Later he becomes appreciative of the new situation.

II. While the alcoholism itself is the bull's-eye of the psychologic treatment target, yet as the therapist retraces with the patient his life history, many concentric psychopathologic circles are hit. Usually a pattern of emotional immaturity appears, and very frequently it has its sources in a parent-childhood relationship in which the opportunities to develop emotional maturity, security and decision were wanting.

The "cure" of the alcoholic is incidental to helping the patient attain a reasonable amount of emotional maturity.

III. The production of conditioned thinking reflexes: *positive*, which when it has been acquired, leads the patient not to respond to the stimulus of alcoholic thoughts by attempting to repress them, but rather by reviewing each time the entire sordid and distressing sequel to the taking of one drink in the past; *negative*, consisting of habituating the patient to think in terms of the many life satisfactions which are nonalcoholic.

IV. From his first interview with the patient, the therapist declines to deal with the patient on anything but a mature basis. Therefore, the patient must learn to make his own decisions. If, as happens, the patient asks for decisions as to whether he should remove all alcohol from his house; serve cocktails to guests; keep away from the club or the taproom where he likes to play darts, the answer is to do whatever he thinks best.

V. It is important psychologically that the patient comes to a true understanding of why he wishes to get well. It is not, as so often he believes sincerely and erroneously, because of the unhappiness and distress his habit has brought to his wife and family; his old mother and father, and his friends. The therapist will not long tolerate this erroneous thinking. The patient learns that he wants to get well for himself. Often emotionalized rationalizations are genuine and remorse is very keen, but they do not lead to recovery. Actually, the remorse is borne until the suffering becomes too severe and then it is drowned in a tidal wave of a long alcoholic debauch.

VI. As the history is worked out and worked over between the patient and the therapist, the patient gradually comes to the appreciation and conviction that his future must be nonalcoholic. Therefore, the pathologic drinker is never really cured. In those patients who are destined for recovery, this conviction becomes very strong. It has been said that should the individual be welcomed at the Heavenly Gates by St. Peter proferring a cup of heavenly ambrosia, the pathologic drinker would reject it on the suspicion that it might contain alcohol.

The dreams of some patients as they approach recovery are quite interesting and revealing. Very often the patient who is practically well and who has inculcated into his personality the firm conviction that he will never drink again dreams alcoholic dreams in which he is placed in such a position that in his dream-life it becomes imperative for him to take alcohol.

VII. Sometimes relaxation is used in order to minimize the effect of distracting alcoholic thoughts and the inhibitions they produce and to enhance the effect of direct suggestion: The patient is put into a state of abstraction. He is asked to close his eyes, breathe slowly, and to think of the prominent muscles when they are mentioned as becoming relaxed. The cadence of the voice is made increasingly monotonous ending with the suggestion that the patient is drowsier and sleepier. This is continued for a few minutes and usually at the end of a therapeutic session, and then an equal amount of time is spent in implanting simple constructive ideas.

RE-EDUCATIONAL. I. From the beginning and throughout the treatment the patient is asked to read authoritative books and notes on the psychopathology of alcoholism and to make notes of his own opinions in agreement or disagreement with what he reads. This procedure encourages a detached and independent viewpoint and the notes provide a helpful basis for discussion.

II. Since the patient makes his own decisions, he is not directed to do anything, but among other things he is encouraged to make out each night a schedule of the following day's activities. Coöperative patients arrange this schedule so that unoccupied times in which there is the likelihood of relapse are avoided. Avoidable deviations from the schedule provide a useful basis for therapeutic discussion.

III. It is fallacious to believe that a change of occupation can cure alcoholism. There are no occupations which are free from opportunities for imbibing. Furthermore, no one has solved a problem of addiction to alcohol by attempting to find an alcoholic occupational dry dock. However, it may be that the occupation in which the patient is engaged is not a suitable one for him, perhaps because it is beyond his limitations and capacities or because he dislikes it. In such situations it is often helpful to have thorough vocational guidance examination. Avocations too are important, and the patient is helped if he can develop an interest in hobbies, particularly those which include manual craftsmanship.

IV. While again his course of conduct is not dictated, it is encouraging if the patient decides to adopt a frank attitude toward his friends and tell them without evasion why he is no longer drinking. In keeping with the mature level upon which the therapy is being conducted it is necessary to obtain the coöperation of the wife and family in order to persuade them to relinquish the childish attitudes and methods of entreaty, blame, praise, and constant watching.

PHYSICAL. While it is true that the habit of alcoholism cannot be cured by pharmacologic agents, yet the physical aspects of therapy are extremely important adjuncts in the treatment.

I. In every patient there must be a thorough physical examination and an effort to put the patient at his somatic and functional optimum.

II. The question of hospital or sanitorium care is often important. Perhaps one-third of our patients are able to avoid a stay in the hospital or sanitorium. The remainder, because of nervous depletion with markedly impaired resistance against taking alcohol, require some period of hospital treatment. Hospital residence should not be continued any longer than is absolutely necessary. It is very easy for the hospital or sanitorium to become a surrogate for parental or wifely or family care and decision. Because a desire for alcohol disappears the patient develops a false sense of security and thinks he is well. The main engagement against alcohol must be fought out on the terrain of everyday life.

III. While the patient should have a normal amount of exercise, it is important to counsel him against serious overfatigue. Sometimes a patient overtires himself in order unconsciously to accomplish a rationalization for drinking.

IV. The eating habits of the alcoholic are atrociously bad and his nutrition suffers significantly. Encouragement to eat a well-balanced diet at regular times is helpful.

V. In a segment of alcoholic patients, blood taking at certain periods during the day show low blood-sugar levels. These periods are more or less coincidental with the appearance of a great variety of subjective sensations. These sensations stimulate the patient to take large amounts of alcohol, unconsciously meeting a carbohydrate need. This may be advantageously used in treatment by suggesting that late in the morning and afternoon the patient eat a bar of chocolate, a few cookies, or pieces of candy.

VI. It is important to be sure that the vitamin needs of the patient are being adequately supplied.

The attitude of the public and even of many physicians is not a sound one. It is usually compounded of good-natured tolerance, superiority and contempt. For anyone who wishes to become seriously interested in the problem of alcoholism, it is suggested that he repeat to himself the following words attributed to the poet when he saw a hopelessly debauched drunkard lying in the gutter of the street: "There but for the grace of God am I."

CHAPTER 15

PSYCHOPATHOLOGIC PROBLEMS OF CHILDHOOD

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Psychiatrists, until about three decades ago, were consulted mostly in cases of extremes and end-products of personality aberrations. Outspoken schizophrenic, manic-depressive and hysterical reactions were observed very rarely before puberty. Psychiatric occupation with children was limited almost entirely to the low grades of mental deficiency. No attention was paid to the common behavior problems of boys and girls. Their management was left in the hands of parents, teachers, clergymen, and sometimes the police. They were not looked upon as legitimate objects of medical curiosity. Whipping, scolding, sermons, bad marks in school, and the occasional prescription of tonics and sedatives exhausted the therapeutic resourcefulness available at that time.

The twentieth century has been rightly called the century of the child. At its beginning, the field of psychiatry was gradually broadened to include the milder personality difficulties of adults and the rank and file of behavior deviations of children and adolescents. The importance of scientific study and treatment of the psychopathologic problems of childhood was recognized by psychiatrists in an increasing degree, and the appreciation of this importance was transmitted slowly to other physicians, parents, teachers, social workers, and juvenile court judges. This change from almost complete neglect of the child to realization of the great value of child psychiatry was due largely to two significant developments: the introduction of a genetic-dynamic attitude and the spread of the mental hygiene movement.

The Influence of Genetic-dynamic Psychobiology. As long as psychotic manifestations were regarded solely as diseases of the brain (with mostly unknown cerebral pathology), there was little interest in the early evolution of the patients' personalities.

Sigmund Freud, working with psychoneurotic adults, discovered that many of his patients' symptoms could be traced to early life experiences. He was able to show that phobias, obsessions, and hysterical paralyses did not just happen as if coming from a clear sky and were not merely inexplicable manifestations of this or that disease but were rooted in the life histories of the patients themselves. Their origin and evolution could be studied. The emotional difficulties of children assumed major significance as the precursors of adult maladjustment. Adolf Meyer's formulation of the psychobiologic concept of man as a mentally integrated individual shifted the emphasis helpfully from organs and their diseases to the patients as improperly functioning persons. This logically whetted the appetite for the study of the personality development of the patients, of their abnormal functioning or behavior, and of their assets which might be used constructively in helping them to overcome their difficulties. Once the habit of dealing with "mental diseases" had been supplanted by the habit of trying to readjust human beings, one no longer was restricted to the interest in those people whose maladjustments had assumed the proportions of full-fledged psychotic collapse. Any person, adult, or child, "normal" or "abnormal," who presented any kind of personality or behavior problem, became entitled to psychiatric investigation and treatment. Just as the pediatric specialist treats a mild common cold as well as asthma and pneumonia, so the modern psychiatrist has learned to treat children with fear reactions, temper tantrums or food capriciousness, which may be as far from being symptoms or forerunners of a psychosis as an ordinary stomach-ache may be from being a symptom or forerunner of gastric cancer.

The Influence of the Mental Hygiene Movement. In 1908, Clifford Beers, an energetic and enthusiastic graduate of Yale University, who himself had gone through a psychotic experience, was led by Adolf Meyer to turn to mental hygiene and decided to devote his organizing talent to the betterment and prevention of mental illness. His book, "A Mind That Found Itself," the foundation of the Connecticut Society for Mental Hygiene, and the formation of the National Committee for Mental Hygiene (1909) ushered in a movement which has since then assumed international significance. In 1930, the governments of more than 50 countries sent their delegates to the First International Congress of Mental Hygiene held at Washington, D.C. The development of mental illness and delinquency was to be prevented through educational measures and the earliest possible clearing up of personality disorders, before hospitalization or penalization would become necessary. This attitude resulted in the desire to reach the individual during the formative years of childhood. In the course of time, it was learned that it was not desirable nor wise to think always in terms of future psychoses or criminal careers. Children's behavior problems came to be considered worthy of psychiatric attention for their own sake, because they existed and called for adequate guidance and not solely because of what might happen later in life.

In order to help the communities to achieve their purpose, the Commonwealth Fund, in 1922, established demonstration child guidance clinics in seven of our larger cities. By 1928, more than 500 mental hygiene clinics had been organized in this country, and at the present time more than 40,000 children are being examined each year. The principles of mental hygiene and child guidance have been adopted by many schools and colleges, juvenile courts, parent-teacher groups, and the Child Study Association of America, which has parent education for its chief aim. Pediatricians have become eager to learn how to examine and handle the common behavior problems of children, and in recent years psychiatric consultation service has been instituted in a number of children's hospitals connected with medical schools.

Examination of Children Presenting Personality Disorders. Children, like all human beings, are complex creatures and defy any attempt at simplified reduction of their behavior to any one common denominator. Some physicians were wont to think in terms of somatic pathology only; they feel that their job is done completely if they circumcise masturbators, clip the tongues of stutterers, remove the tonsils of all types of misbehaving children, and prescribe sedatives for night terrors and general restlessness. Some people believed that the intelligence quotient explains all personality deviations of children. Some blamed the environment for everything that goes wrong. To some, heredity and constitution served as all-valid formulae. Others again were satisfied to lay all difficulties at the door of repressed sexuality or an inferiority complex. Insistence on any "one and only" cause, however, fails to do justice to the wide variety of factors that may, and really do, combine themselves to produce the multitude of personality disorders which we find in different children. A thorough investigation must, therefore, try to obtain in an unbiased manner all the essential facts actually operating in the individual case.

Every examination should be preceded by a clear account of the reason why the help is desired. It is best to record *the complaint* verbatim in the exact manner in which it is offered by the informants, unadulterated by the translation into our own or anybody else's terminology. What is it that bothers the parents, the teachers, or the patient? How do they themselves feel about the difficulty? Are the elders sympathetic, annoyed, alarmed, do they make excuses, place blames, anticipate disaster? Do they have any set notions as to what they wish to be done? How did they handle the problem before they came to us? Does the child himself feel ashamed, wronged, guilty, irritated, amused, or does he seem indifferent? Does he really wish to be helped? Under what special circumstances did the problem develop?

After obtaining the complaint, we are ready to acquaint ourselves with the child about whom the complaint has been made. It is essential that we become familiar with the main features of his biography, his physical condition, intellectual equipment, emotional reactivity, constitutional background, and the nature of his environment. Any work with children's personality disorders which fails to take all of these factors into consideration is incomplete and, therefore, frequently unsuccessful.

We do not know a child sufficiently unless we know his *life's history*. Attention should be paid to the mode of birth, developmental data, early feeding, habit formation, illnesses, operations and injuries with hospitalization, and any other complications, changes of residences and schools and their effects, scholastic attainments, and any other important events in the child's life and what they have meant to the child.

Physical examination should be included in every psychiatric examination. The somatic factor plays an important part in the child's functioning and its evaluation. We know that a sick child may react differently from a healthy child. The effects of undernutrition, errors of refraction, and fatigue deserve careful attention. We know that certain diseases of the brain and the glands of internal secretion may be associated with more or less specific deficiencies or behavior deviations. We know further that emotional difficulties may find their expression in the form of somatic dysfunctions, such as vomiting, pain, tics, enuresis, blushing, pallor, breath holding spells, constipation, etc. There was a time when many personality disorders were laid at the door of so-called "focal infection" from abscessed teeth, otitis media, inflamed tonsils, appendices, and gallbladders. Though each of these conditions should by all means be investigated and treated, we cannot afford to overlook the existence of other factors that may have contributed to the behavior problem for which help is desired. In recent years, especially in England, hypoglycemia, or an insufficient amount of blood sugar, has been considered responsible for a number of children's abnormal reactions, such as periodic vomiting, migrainous attacks, night terrors, car sickness, easy fatigability, and bedwetting. One is entitled to wonder whether or not hypoglycemia, where it really does exist, is a part manifestation rather than the cause of any of these disorders.

Ever since the day of Tuke, the famous British psychiatrist, it was known that emotional conflicts may create or aggravate body illness. Recently, a body of "psychosomatic medicine" has been built up, which proved the strong impact of the personality component on asthma, eczema, colitis, gastric ulcer and other diseases which had been considered exclusively somatic in origin. Though most of the studies, so far, have been limited to adults, enough work was done with children to show that these principles pertain to them as well. This is especially true of "hospitalism," the profound effect on physical as well as personality development of children who, in spite of the best hygienic care, fail to thrive in an impersonal institutional setting during the first months and years of life.

It is necessary to study the child's *intellectual endowment*. Standardized and reliable tests are available for this purpose: the Gesell, Kuhlmann, and Minnesota tests for preschool children, and the Stanford revision of the Binet-Simon test for children of school age. By means of the psychometric rating we learn what a child can be expected to achieve at any stage of his development. Many pupils are accused unfairly of laziness or lack of ambition when in reality they do not have the capacity for competing with their classmates. The failure of others may be due to emotional and situational rather than intellectual difficulties. Sometimes circumscribed handicaps will be discovered in the course of the test, especially color blindness or specific reading or numerical disability. The degree of a child's intelligence should never be guessed or inferred from appearance or behavior but always measured with the scientific methods at our disposal.

The child's *emotional reactivity* is investigated by means of obtaining an account of his responses to various life situations. To what sort of situation does he react with fear, anger, jealousy, bashfulness, sullenness, boisterousness? In what manner does he give expression to these emotions? Is his general attitude one of aggressiveness, seclusiveness, timidity, submissiveness? Is he cold or affectionate, happy or unhappy, appreciative or dissatisfied, demanding constant attention, sociable, sharing his toys with others, etc.? Always specific examples should be given, which must leave no doubt as to the meaning of the descriptive terms. For instance, if a child is given to anger outbursts, the examiner should learn when and how they first began to show themselves, to what concrete situations he reacts with tantrums, what he does during the tantrums, how and with what results they have been handled by the family, and whether or not he reacts similarly when away from home; the patient's own attitude with regard to the tantrums should be elicited.

We wish to learn not only how the child reacts emotionally to environmental situations but also what the *environmenal constellation* is to which he reacts. *Psychopathology is to a large extent the pathology of interpersonal relationships.* Children with different constitutional endowment grow up in homes and neighborhood which from the beginning exercises a great influence on their habit training, type of socialization, degree of emancipation, attitudes and standards of living and behaving. Throughout childhood *the home* is the nucleus of the child's social life; there he emerges by degrees from the passivity of the neonatal period to a stage in which he becomes a domesticated member of the household and is gradually prepared for the tasks of communal adjustment. *Neighborhood* contacts with playmates and their families, through walks, visits to stores, and church attendance widen his social horizon. The *school* enters into his life as a powerful educational and socializing agent. Psychiatric examination must familiarize itself with the specific features of the patient's environment, the examples set and attitudes instilled by the members of the household and the child's relations to them and to his playmates, classmates and teachers.

Attitudes are not less important for healthy development than are bacteria or mechanical insults. Genuine parental fondness for a child is his best opportunity for wholesomeness, security and stability. Affection, acceptance, and approval are the three main pillars of mental hygiene. Tragedy may arise from parental overprotection, rejection, coerciveness or neglect. Hence, no examination even approaches an adequate understanding of behavior motivation if it does not familiarize itself with the parental attitudes to which a child reacts.

Different children may react differently to the same environment. All men are not born equal. This is certainly true of the wide variations in their intellectual endowment. It is also true, more generally, of the sum total of human potentialities, of which we speak as man's *constitutional background*, the "stuff" of which he is made. This depends to some extent on the stock from which he originates. For this reason it is necessary to learn of the family's modes of reacting to life situations. There was a time when one looked eagerly for so-called "stigmata of degeneration," all sorts of somatic deviations from the average, concerning the configuration of the skull, shape and size of the ears, height and width of the palatal arch, development of the genital organs, etc. We have learned to judge personalities from performance rather than from incidental "stigmata" but reserve the right to make a note of them in our examination, especially when there is a combination of several in the same person. Attempts have been made to correlate certain types of physique with certain types of personality make-up; this correlation, not yet demonstrated conclusively in adults, is certainly far from being obvious in children. We might say generally that constitution is that which a child has inherited from his parents plus that which he brings with him into the world as a unique "experiment of nature," an individual *sui generis*.

After a study of the patient's personality organization by means of an analysis of his biography, intelligence, habit formations, emotional responses, environment, and constitution, we are ready for a synthetic reformulation, or an understanding *diagnosis*, on the basis of the data obtained in the examination. The diagnosis should be so expressed that it conveys to anyone an understanding of what really is wrong and should be remedied and what can or cannot be modified in the individual case. One-word snapshot diagnoses do not convey that understanding. The diagnostic synthesis should be a concise and logical preparation for the therapeutic program.

The Principles of Psychiatric Treatment of Children. The essential principle is expressed in the following sentence: *Psychiatric treatment is the sum total of efforts made in behalf of the adjustment of a child who presents any form of personality difficulty.* This usually requires a number of well-defined steps: work with the child himself, work with the family, sometimes work with the community, and specific supplementary therapeutic aids.

Realizing that we deal with a maladjusted person rather than merely with a detached complaint, we try to establish in *the patient* a condition of security, comfort, and well-being. Any existing physical disorders should be remedied, regardless of whether or not they have any relation to the personality difficulty complained of. We try to gain the child's confidence, give him an opportunity to discuss with us his problems frankly and without fear of criticism or ridicule, and create in him a spirit of collaboration and self-confidence in his ability to overcome his difficulties. If he is old and intelligent enough, we should ask him for his own remedial suggestions and invite his participation in the therapeutic program. We try to correct any faulty attitudes and notions which he may have formed in connection with his problem.

The relationship between the child and his physician is of paramount therapeutic significance. In an atmosphere of mutual trust and acceptance, the child is given a chance to express his feelings and to examine and modify his own attitudes. This can sometimes be done conversationally. In the past two decades, methods have been devised which help the patient to view his situation when conversational interviews alone are not fully productive. The child is allowed to project his conflicts through plays with dolls and other toys, drawings, clay modeling, or finger painting.

We then proceed to secure *the family's* coöperation. We begin by formulating to the parents the nature of the existing problem concretely, clearly and tactfully, in simple language devoid of professional terminologies, avoiding unnecessary complications, and in an inoffensive manner which would assure acceptance. Every step in the plan of treatment should be made to appear logical, reasonable, and helpful. There should be no argumentation. Harmful superstitions, pseudomedical and pseudopsychologic ideas should be done away with. A way should be paved for the family to overcome excessive sternness, leniency, solicitude, or neglect, unwarranted ambitions, and overprotection. Sometimes the personality difficulties of members of the household other than the patient will have to be included in the plan of treatment, if they interfere with the proper adjustment of the patient.

We must often, besides the work with the child and his family, engage the help of *communal agencies*. We must frequently enlist the coöperation of the school. At times, when the home situation cannot be modified and is found to be disastrous to the child's development, boarding home placement must be considered. In some instances, institutional training may become imperative. After all these things have been considered and arranged, it is often advisable to employ *supplementary measures* of a medicinal or educational nature. The so-called star chart may prove to be helpful in cases of food capriciousness, enuresis, or temper tantrums. The marked restlessness and sensitiveness of girls during the period of pubescent hyperthyroidism call for judicious treatment.

This group of somatogenic personality disorders and, to a considerable extent, also the following group, should convince anyone who is open to conviction that the psychopathology of childhood is definitely *the domain of psychiatrically informed physicians* and should not under any circumstances be relegated to medically untrained persons. Good intentions and laudable enthusiasm cannot make up for lack of indispensable medical knowledge.

Personality Difficulties Symbolized by Organ Dysfunctions. This group, constituting a considerable and clinically conspicuous portion of the psychopathology of infancy and childhood, is made up of localized functional disturbances seemingly limited to a specific organ or organ system. The essential uniting feature consists in the fact that, in spite of vast laboratory research, organic lesions cannot be objectively demonstrated. Psychiatric study has revealed that these disorders are bodily part-manifestations of psychopathologic reactions involving the total personality of the patient. Hence they are best understood and treated, not locally, not detached from a consideration of the person, but by means of studying the child in his entirety, with attention to his biographic, physical, emotional, intellectual, constitutional, and environmental peculiarities. Many of these conditions, however, may also be produced by actual organic disorders, and for this reason a careful medical investigation is always indicated.

Visceral participation in emotional responses is a normal phenomenon. The sigh of relief, loss of appetite in grief or excitement, blushing in embarrassing situations, and pallor in fright are matters of common observation. Under the stress and strain of unhappiness, frustration, inability to live up to unwarranted ambitions and expectations, feeling of insecurity, and other protracted emotional unpleasantness, the visceral participation may become intensified, attached to a specific organ, they can be automatized, and may lead a seemingly detached existence. The connection with the responsible disturbance may be fairly obvious at times. It was so, for instance, in the case of a 12-year-old overconscientious, normally intelligent, and physically healthy girl who took very seriously the teacher's remark that all children of the class would be promoted to junior high school not on their merits but more as a matter of routine. The others forgot this remark. But Catherine began to ponder over it, and, after promotion, felt that she was not ready for the higher grade. Every morning, before going to school, she was miserable and vomited her breakfast. She went to the school authorities, begging that she be permitted to repeat the preceding grade. This was finally granted, and the vomiting ceased on that very day and has never recurred since then. In most instances, however, the connection between the psychogenic organ-dysfunction and the etiologic background is not so immediately simple and so readily removed and can be brought out only by means of adequate personality study.

Almost any organ system may occasionally lend itself for the expression of emotional difficulties. The central nervous system may respond with headaches, the circulatory system with blushing, pallor or palpitations, the digestive apparatus with anorexia, constipation, or vomiting, the urinary system with enuresis, the striped-muscle system with tics or general motor restlessness. We offer a case each of psychogenic constipation, enuresis, and tics as instructive illustrations.

CONSTIPATION. Habitual psychogenic constipation may arise from failure to establish in the child regularity of toilet habits, the child's refusal to go to the toilet as a part feature of general negativism and obstinacy, the absence of adequate toilet facilities at home or at school, and most frequently an atmosphere of parents' overconcern over their offsprings' bowel movements, sometimes reinforced by the dire prophecies of newspaper advertisements for cathartics. A thorough physical examination is always essential. Sometimes the finding of spastic colon calls for specific medication. Prevention and treatment of habitual constipation are based on the adjustment of the underlying personality difficulties, a well-balanced diet, regularity of feeding, sufficient exercise in the open, avoidance of overconcern, and allowing the child to go to the toilet at about the same hour every day at a time which is free from distraction and haste.

Constipation in a 10-year-old girl, as a reaction to frustration and jealousy and an attention-getting device.

Bernice was first taken to our clinic on October 18, 1933, at the age of 10 years. Her mother brought her with the complaint that she had been chronically constipated for a little more than two years; she wanted immediate attention because of an "emergency," reporting in great alarm that Bernice had been without a stool for eight days and had wildly refused suppositories and enemas. She stated spontaneously that she was anxious to have the whole thing treated as a "physical" condition, explaining somewhat indignantly that the last of several physicians consulted had suggested that psychogenic factors might be at play. Bernice, in remarkable contrast to her mother's consternation, looked on smilingly and listened with obvious glee to the parent's frantic recitation.

Bernice, upon physical examination, was found to be healthy, except for slight underweight and the fact that her colon was filled with fecal masses. There was, however, no sign of spasticity of the colon, and there was no pain on deep palpation.

The child was kept at the hospital for two weeks. During that time, x-ray examination of the intestines after barium enema and laboratory tests of the feces confirmed the clinical impression that there existed no organic disturbance which could account for her "constipation." She was referred for psychiatric consultation, and in several interviews with the child and her mother the following facts were obtained:

Bernice was the only child of well adjusted middle-class parents. Her mother had had an unhappy childhood. She was the only one of an artist's six children who was not musically inclined. The others joined in nagging her and forcing her to practice piano which she disliked intensely. She was not given an opportunity to develop her drawing abilities. She felt isolated and took refuge in household activities, trying to gain recognition at least as a "mother's helper." She was almost pedantically exacting with herself in her self-imposed domestic duties and anxious to be considered "perfect" in this respect to make the others feel dependent on herself, and to be praised for her devotion to them. Her eagerness to do things "just so" assumed mildly obsessive qualities. As soon as she graduated from high school, at 17 years of age, she was married to a man who was seven years her senior. She enjoyed one year of undisturbed bliss until Bernice was born. She then centered all her attention and activities on the child, through whose cleverness she once hoped to recaptivate her family's good graces. In spite of the mother's oversolicitude and overprotection, in which the father soon joined her, Bernice developed normally and was well adjusted. Early parental agitations over her feeding left no traces. Bernice entered school at six years of age and got on well there. Up until eight years of age, she was rightly considered a happy and normal child.

Bernice's mother could never bring herself to move any distance from her parents and siblings. She lived only a few houses away from them, in the same square. Her youngest brother was born at about the same time she gave birth to Bernice. This child, Sidney, displayed unusual musical talent at an early age. When he was eight years old, the Conservatory of Music made special arrangements for his training and he had his picture in the newspapers. He was the idol of his family, and Bernice was barely given any notice. For Bernice showed no musical inclinations. The fact that Sidney did not do well at school, whereas Bernice always had good marks, was of no avail, for a "genius" could not squander his time on reading, writing and arithmetic. Bernice's mother bravely tried to convince her child that she was just as good as Sidney, but the note of disappointment was too obvious to escape the notice of her intelligent child. Sidney himself told Bernice that she was "a nobody" and treated her with contempt. When she told him that at least she was not "a dummy" at school, Sidney cried in a spoiled-child manner and Bernice was severely reprimanded by her grandmother who supported Sidney's charges. At that time Bernice, who had always been a healthy child, was constipated for several days and for the first time the whole family really was aware of her existence. Cathartics were recommended, and inquiries about her health and her bowel movements came from her grandparents, uncles, and aunts. The constipation continued and became stubbornly worse. Laxatives took no effect. After a while, suppositories ceased to do their duty. Finally, even enemas were retained; their administrations became dramatic affairs, with violent struggle on Bernice's part and bribes, persuasion, threats and coercion on the part of her parents. Bernice was a "sick child," the whole family was concerned, people were nice to her, doctors were consulted, the novelty of Sidney's success began to wear off, and Bernice occupied the center of attention. She suffered no pain, went to school every day, and seemed satisfied in every way.

After a few days at the clinic, Bernice developed and maintained regular bowel movements without the aid of medicines, suppositories, or enemas. It was found that she had remarkable drawing abilities and she was invited to participate in the ward decorations for the Hallowe'en party which happened to coincide with her residence at the hospital. The newly gathered facts, obtained from Bernice and her mother, were discussed with them openly. Bernice, at the mention of Sidney's name, spoke of her years of jealousy, of her feeling of the futility of ever trying to please her family, and of the satisfaction which the family concern over her constipation had afforded her. She was grateful for the suggestion that she be permitted to take a course in drawing at the Art Institute. Her intellectual assets and scholastic achievements were emphasized. She returned to her home as a "somebody" who no longer needed the "constipation" as a means of asserting herself in the eyes of her family. Her mother learned to think of her no longer as a rival of Sidney's. During the past 12 years since her discharge from the hospital, Bernice has never been constipated. She is a normal and well-adjusted individual.

ENURESIS. Enuresis, or "wetting," is the involuntary passage of urine by children more than three years of age. Bedwetting is more frequent than wetting of the clothes in daytime; nocturnal and diurnal enuresis may be present in the same patient. Most frequently, habitual enuresis is caused by inadequate habit training based on parental indifference or overindulgence, lack of opportunity to respond to the urinary urge, general emotional immaturity, or the faulty notion that a "weak bladder" or a "weak kidney" is responsible and nothing can be done about it. Moreover, a variety of conditions has been described as the actual, predisposing, or existing causes, such as external irritations due to phimosis, balanitis, vulvitis, itching sensations in the region of the genitalia, pinworms, anatomic anomalies and inflammatory processes of the kidneys and bladder, occult spina bifida, nutritional factors, high acidity of the urine, and abnormal depth of sleep. Most of these conditions may indeed originate and maintain urinary incontinence and should be looked for and treated if present. To treat as a "habit" the enuresis of a child, which is intimately associated with cystitis or pyelitis, is as grave an error as it would be to treat psychogenically determined enuresis with drugs or catheterization. We do not treat enuresis but the child who is enuretic. All physical defects should be remedied regardless of whether or not they are in any way connected with the wetting habit. The effect of the enuresis on the patient may be of great significance for his entire life situation and character formation. The conscientious child may develop a feeling of shame and guilt, especially if scolded and punished, and lack of self-confidence which may drive him into seclusiveness. The entire constellation is apt to bring about unhappiness and sensitiveness. Faulty notions should, therefore, be corrected. Scolding, shaming, punishing, and bribing should be discontinued. Maladjustments at home (bad sleeping arrangements, contrasting of siblings, etc.) and at school should be straightened out. The child's feeling of hopelessness or guilt should be replaced by one of self-confidence and security. Among the more specific measures, restriction of fluids a few hours before retiring is advisable. After finding out at about what time the patient usually wets the bed, it helps to wake him thoroughly about half an hour before the anticipated event and have him void. Coöperative children may be given a so-called star chart on which they are to paste a paper gold star at the end of a dry night. The chart introduces a play element, makes the child feel that he is definitely participating in the therapeutic program, and gives him visible evidence of success. Where there are no organic ailments to be attacked, the administration of drugs is uncalled for.

ENCOPRESIS. Encopresis, or involuntary defecation, or "soiling," on a psychogenic basis, mostly as a spite or jealousy reaction, is much more difficult to treat than is enuresis. Douglas A. Thom says: "One can only say that these cases call for a careful psychiatric examination by the best qualified person available. And it will often test all his skill and ingenuity to understand the mental processes at work that result in such conduct."

Enuresis, associated with thumb sucking and other habits, as expression of general emotional immaturity.

Jean was brought to the clinic on September 16, 1931, at the age of 12 and a half years with the complaint of lifelong enuresis, thumb sucking, and irritability. Her parents were under the impression that she had a "progressive myopia" and was in danger of becoming blind.

She was given a thorough physical examination. She was found to be essentially healthy, except for nearsightedness and orthostatic albuminuria. Her urine was normal otherwise. X-ray examination of the spine and cystoscopic investigation convinced the examining physicians that there existed no spina bifida nor any kind of abnormalities of the bladder. She was referred to an ophthalmologist, who prescribed fitting glasses for the correction of her refractive error, and was able to assure Jean and her parents that he could see no evidence that there was any reason to anticipate progression of her myopia.

Psychometric rating gave her a mental age of 13 and a half years and an I.Q. of 108. The child complained that she had not been given an opportunity to associate with children other than her brother and sister and said that she had come to consider the thumb which she sucked with great pleasure as "the only friend" she had ever had. She was very much ashamed of her enuresis, was dissatisfied with herself, and had an intense desire to be helped, though she was not certain whether anyone could ever help her. Her mother frankly stated that she did not expect Jean to overcome her difficulties.

The following history was obtained from Jean and her parents: Jean was the second of three children. Her father was born in Russia where as a youth he spent nine months in prison for being a socialist and later served one year in the Imperial Army. He came to this country in 1911, at the age of 23 years. At that time he was "nervous," complained of backaches and feared that he would become "crippled in the brain" because of frequent masturbation. He was a conscientious objector during World War I. He worked successively as a tailor, clerk, owner of a small grocery store, insurance salesman, bookkeeper, and again as a store owner. There was a long series of one financial misfortune after another, due partly to poor investments and partly to illness. Jean's mother was born in England and came to this country in 1910, at the age of 16 years. She was a conscientious, serious-minded woman, and reacted in 1928 with a mild depression to poverty and her husband's sickness. Both parents were devoted to their children. Jean's older sister and younger brother were intelligent and well adjusted.

Jean, though never seriously ill, was a "thin and puny" child and therefore had always been treated as weak and delicate and was not expected to do what the others did. Her habit training was neglected on this basis, she was allowed to be fussy about her food and escape any sort of responsibilities, and the regulation of her toilet habits was deferred until she would be older and stronger. She wet her bed and her clothes and sucked her thumb. When she was four years old and no improvement was noticed, her parents became concerned and took her on a tour from one doctor to another. One physician tied up her fingers; Jean worked hard until she pulled the bandages off and resumed her sucking. Another physician felt that the enuresis was caused by some anomaly at the neck of the bladder, which was cauterized repeatedly for a period of four years. One physician advised to treat her refusal to eat by starving her for a few days; Jean noticed the strategy, fainted, and her mother gave in. Since these methods did not work, her parents began to "shame" her, alluded to the bad odor of her soaked clothes and bed sheets, and scolded her all the time. As a result, Jean became sensitive, irritable, and impudent, and there was a marked slump in her scholastic performances. When she was nine years old, a physician made a diagnosis of progressive myopia and warned the parents that she might become blind. She was pitied accordingly and the nagging campaign was interrupted. Jean then added to her repertoire the habits of sniffing and of rubbing her finger around her mouth until her lips became sore.

Jean and her parents were informed of the results of the examination. A hopeful formulation of the child's difficulties assured greater self-confidence and a willingness to give up the previous pessimism. It was a revelation to Jean and her family that her enuresis was not due to bladder trouble, that her food capriciousness was not based on stomach trouble, and that her thumb sucking was not the result of the dysfunction of some diseased "nerves." Jean, after some initial reluctance, willingly accepted the interpretation of her habits as personal matters rather than affairs of her bladder, stomach and nerves. She was relieved to know that she was not doomed to be blind. Her intellectual assets were emphasized; she was quite surprised to hear that she was normally intelligent, and the news gave her a great deal of self-assurance. Contact with children of her own age was initiated, first with just one or two girls of her own choice, and later she was sent to camp where she mixed freely with the other children. Her concern over her recently established menstrual periods, the nature of which she did not understand, was dispelled through clear explanation of its meaning. Her enuresis disappeared entirely on the day of her first visit to the clinic, in spite of the fact that its recurrence was expected and anticipated by her mother. She also gave up her habits of sniffing and rubbing. For a few months, she still continued sucking her thumb (at night only) and then ceased doing it altogether. Her school achievements showed decided improvement. Her eating habits became better.

Jean graduated from high school, attended State Teachers' College, became a school teacher, married, is well adjusted and a good mother of two children.

TICS. Tics, or habit spasms, are sudden, quick, involuntary and often repeated movements of circumscribed muscle groups, serving no apparent purpose. Blinking, grimacing, head shaking, clearing the throat, sniffing, and jerking the shoulders are the forms observed most frequently. Often several varieties are present in the same child, either simultaneously or successively. Tics must be studied for their setting and not only for the nerves and muscles involved. They may be residuals of intelligible actions and may originate as defensive movements against some constant irritations, such as a tight cap, tight suspenders, or an itching skin disease. The wrinkling of the forehead intended to adjust the cap, the lifting of the shoulder as a reaction to the unfitting suspenders, or the scratching to relieve the itching sensations may become habitual and be kept up long after the source of irritation has been removed. Imitation of others also plays a part in the etiology of tics. The habit, which has originally had a definite meaning, becomes detached from its primary purpose and is no longer useful in the economy of motility. This detachment or automatization takes place in the setting of environmental and emotional stress and assumes specific symbolic meaning. The distinction from beginning chorea is not always easy; choreic movements are jerky, not restricted to a circumscribed group of muscles, and have a greater range of excursion. The more the child's awareness is directed toward the tics, the less are they likely to disappear. Parental admonitions are apt to make the patient more self-conscious and aggravate rather than relieve the difficulty. The same is true of massages, exercises before a mirror, or electrotherapy, all of which tend to center the child's attention on the tics. Faulty notions ("St. Vitus' dance," "nervous wreck," "bad habit") should be corrected. If the original source of irritation is still active, it should be remedied. Since tics mostly occur in children of school age, the patient is directly accessible to a discussion of his personality problems, which should be adjusted through collaboration with him, his family, and, if necessary, the school authorities.

Variety of tics in a 10-year-old boy, fostered by constant parental nagging and anticipation of chorea.

Thomas was 10 and a half years old when he was first brought to the clinic on October 28, 1932, because of facial tics of several years' duration, restlessness, irritability, nail biting, nose picking, and unsatisfactory conduct in the classroom. He was obviously an unhappy boy, who thought that he was seriously ill with "nervousness and St. Vitus's dance," and that he was treated unfairly by his parents and teachers who expected him to conform to the home and school regulations.

Thomas was found to be healthy physically, well developed and well nourished. There was not the slightest evidence of chorea, but a great deal of general motor restlessness. Psychometric rating showed him to be of average intelligence.

Thomas was the elder of two boys. Both parents were well adjusted. The father usually had a calm disposition but stuttered a little when excited and occasionally displayed facial tics of "twisting his mouth and nose." The mother had a tendency to overprotect her children and permitted 10-year-old Thomas to crawl into her bed whenever he asked for it. Thomas' younger brother, Richard, three years old, was healthy and well behaved. Thomas had been an only child for seven years. About one year after he was born, his mother had a miscarriage at four months, losing a pair of twins. This made her feel that she would have no more children and she watched oversolicitiously over her boy's health. When about four years old, Thomas began to blink his eyes. It is possible, though not certain, that imitation of his father's blinking may have had something to do with this. The mother had a sister who had chorea at the age of 19 years. The boy's blinking was immediately interpreted as the first sign of "inherited" chorea. A physician advised the parents to call his attention to his blinking any time he did it. This made him self-conscious and, instead of getting rid of his blinking, he added twitchings of his mouth and nostrils. The doctor had said his condition was not choreic but might some day develop into chorea. The parents watched for other symptoms and were eventually alarmed by the observation of jerkings of the shoulder. Since their eternal "corrections," nagging, reminding, scolding, and promising rewards for improvement were of no avail, he was taken to another doctor who said it was the "beginning of St. Vitus' dance" and prescribed "nerve medicine." Thomas, then seven years old, gave up his blinking but began to turn his head around "as if he tried to get rid of a tight collar," bit his fingernails, picked his nose, and rubbed his hands over his mouth. He was sensitive, cried at the least provocation, and was generally restless and overactive. When his brother was born, the parents feared that Richard might acquire the same habits from imitation of Thomas' behavior, were forever after Thomas to take his medicine regularly, continued their "corrective" campaign, and would not let him be near the baby unless he mend his ways. They did not notice the discrepancy which consisted of blaming him for a performance which they definitely attributed to the existence of chorea. Thomas was unhappy and made poor progress at school where his restlessness became annoying to his teacher and classmates. His parents were frankly disappointed and this added to the unpleasantness of the home situation.

Thomas and his parents were assured that he undoubtedly had no chorea and that, on the other hand, he was not a bad boy who went through his actions to annoy his parents. They were also informed about the striking observation that during the entire course of the examination he showed no sign of tics or overactivity when alone with the examiner and at ease, but became tense and went through the whole scale of his performances as soon as either of his parents appeared on the scene. The invitation to take a part in working out a more satisfactory remedial program was greeted by Thomas with great enthusiasm. The campaign of "corrections" was to be discontinued immediately. He was permitted to play with Richard to his heart's content. The "nerve medicine" was discarded. The school teacher was informed about the situation and her annoyance was replaced by a desire to help Thomas. The boy was no longer to sleep with his mother. His parents were to pay no attention whatever to his tics. Thomas was to join the Y.M.C.A. and to establish healthy associations with other boys. He was to be given a manicuring set which would help him to develop pride in the appearance of his fingernails within a few days. His parents were coöperative and carried out the recommendations as best as they could. There was a marked improvement in his scholastic achievements. His restlessness decreased by degrees. He no longer expressed the desire to sleep with his mother. He enjoyed his new Y.M.C.A. associations. Within three months his tics disappeared entirely. He was a happy self-confident boy. His conduct at school in the January, 1934, report was "moderate" instead of the previous "deficient" mark, in June, 1934, it was "good," and after that it has always been considered "excellent."

Personality Difficulties Expressing Themselves Clearly as Whole Dysfunctions of the Individual. The first group dealt with behavior problems arising definitely in connection with physical illness. The disorders treated in the second group were organ dysfunctions of psychogenic origin. The difficulties discussed in a third group appear more obviously and unmistakably as problems of the patient as a person rather than an illness of an organ. They comprise a wide range of disorders: intellectual inadequacy (so-called mental deficiency), unhealthy emotional responses (fear, anger, jealousy, spite reactions), thinking difficulties (daydreaming, lack of attention, concentration), antisocial trends (disobedience, lying, stealing, truancy, cruelty, destructiveness), sexual disorders (masturbation, heterosexual and homosexual practices), disorders of sleep (insomnia, nightmares, night terrors, somniloquy, sleepwalking, grating of the teeth), faulty feeding habits, habitual manipulations of the body (nail biting, thumb sucking, nose picking, hair pulling, etc.), attack disorders (convulsive phenomena, breath holding spells, syncopal attacks, migraine), the minor psychoses (hysteria, hypochondriac trends, obsessions and compulsions), and the major psychoses (schizophrenia, manic-depressive psychoses).

Some of these personality problems have been discussed at some length in the preceding chapters. In them the reader has been made acquainted with the adjustment difficulties arising from mental deficiency. He has been introduced to the study of the major psychoses which are exceedingly rare in children and, if present, do not differ essentially from these reaction patterns in adults. He has also had an opportunity to learn of the main features of epilepsy, hysteria, and the obsessive-ruminative tension states (so-called psychasthenia). The discussion of these conditions will therefore not be repeated.

Unhealthy Emotional Responses. Reactions of jealousy, anger, and fear are the commonest forms of overt emotional disorders of children.

Jealousy. The two principal sources of the arousal of jealousy in children are the arrival of a new baby and the practice of contrasting siblings with one another. A wise parent will prevent the development of this reaction by preparing the child for the coming of the new baby, by making him participate in the plans and arrangements, and later by having him take some minor part in the care of the infant, making that part a privilege and pleasure and not a disliked obligation. Both children should, as time goes on, be treated without a spirit of favoritism or of creating in either sibling a feeling of being contrasted advantageously or disadvantageously.

ANGER. Anger often is expressed in the form of breath-holding spells by infants in the first two or three years of life. Afterwards children may react to thwarting of their wishes, criticism, and desire for self-assertion with sullenness and crossness or with dramatic temper tantrums.

Faulty habit training is a prominent factor in the etiology of breath-holding spells and temper tantrums. Tantrums are often copied from other members of the family who lack emotional self-control. With very few exceptions, we find them in spoiled, stubborn, negativistic children of overindulging, oversolicitous and overprotective parents. The habit is maintained and fostered by alarm displayed by the parents and their tendency is to "give in." Thus the child learns to use his tantrums as a means of obtaining his wants and dominating the family. The treatment should aim at proper training, good physical health (sick children are more apt to be irascible than healthy children), and removal of environmental distress and bad example. The individual outbursts should be met with calmness and gentle firmness, and the child should learn that he will not obtain his wants by means of tantrums. Sermons are useless. "Indifference" is a far more effective disciplinary method than anything that places the child in the center of attention. It is downright harmful to react to tantrums with similar emotional scenes, whippings, cold water poured over the little actor (unfortunately a common procedure), or signs of consternation.

Breath-holding spells and temper tantrums, associated with feeding difficulties, in a parentally mismanaged two-year-old girl.

Nancy was brought to the clinic at the age of 28 months with the complaints of breath-holding spells, temper tantrums ("she swings herself around, stamps her feet, clenches her fists, and grits her teeth"), refusal of food and vomiting when forced to eat. Her mother spiced her report with peculiar notions which were a mixture of superstitions, misapplied medical terminology, fear of "heredity," and projection onto the child of her own difficulties. The parents' management of the child was dictated by the mood of the moment and consisted of whipping, putting her to bed or in a dark closet, having her sit in a chair for various lengths of time, pleading, acquiescence, the father's leaving the house in anger and slamming the door, and the mother's breaking down and weeping.

Nancy was found to be in good physical health. She was very unruly in her mother's presence but when left alone in the waiting room, she played nicely and quietly with the toys. When called to come to the office, she entered calmly and willingly and coöperated most satisfactorily. She had a mental age of two years and six months.

Nancy was the only child of "nervous" parents. Her father, a 27-year-old airplane mechanic, "had no patience with the baby, could not stand anything the baby did, hollered at her, shook her, then said he felt sorry for it." Her mother, a 24-year-old high school graduate "got all shivery and shaky when she got into a real argument, which happened often." There were many instances of lack of emotional control in the maternal branch, expressed mostly in the form of temper outbursts and vomiting spells. Nancy's mother frequently responded with headaches to any sort of unpleasant experiences.

Nancy was born normally. Soon after her birth, her mother was operated on for rectocele and cystocele; she was in bed for six weeks during which the father took care of the baby. Nancy teethed, walked, and talked at the proper time. When she was one year old, she "chewed on anything she could get hold of, gnawed the paint off her crib, and dug a hole into the wall putting the plaster into her mouth." She had chickenpox at 13 months, whooping cough at 16 months, impetigo at 17 months, and acute sinusitis and rhinopharyngitis, pinworms, slight pyuria and mild acidosis at 18 months.

Obviously a great deal of work was to be done with the parents. Through clinic visits and with the help of a social worker, their faulty notions were discussed with them and corrected; because of them the child had been subjected to strange practices. Thus the mother had been worried because Nancy did not cry enough when a few months old and, fearing that she did not sufficiently exercise her lungs, had beaten her every day to make her cry. Though the child did not wet her bed, her mother picked her up every night and carried her to the toilet because she feared "inheritance" of enuresis which she herself had had until the onset of menstruation; she thought that sometimes Nancy's eyes were puffed and "knew that kidneys have a direct bearing on the eyes." These misconceptions and many others had to be removed. The parents needed and were given help in developing more stable emotional attitudes and habits. Adequate recreational outlets were provided for them; they had previously never left the home in their spare time because they would not entrust the care of the child to anyone else: "Nancy could not get along without me (the mother); she is too dependent on me." The methods of punishment were utterly discouraged, so was also their tendency to frighten the child on many occasions. To keep her from going out into the street, they had told her that an automobile would hit her and she would die and go down in a big hole where nobody would ever see her again; this had made such an impression on Nancy that she was preoccupied with the idea of death and, instead of her usual prayer, said: "If die go down big hole." Greater regularity of feeding, sleeping and elimination was recommended. The parents were presented with the helpful pamphlet, "The Child from One to Six, His Care and Training" (Publication No. 30, U.S. Department of Labor, Children's Bureau, 1931). Under the changed régime, Nancy ceased to fuss over her meals, was permitted to sleep through the night without being picked up, dropped most of her negativism and had no more breath-holding spells nor temper tantrums.

At the age of two years and nine months, Nancy stuttered for a brief period. Her mother handled the problem much more calmly and wisely than she had handled Nancy's problems before. She took her to the clinic and was advised not to make an issue of the child's stuttering but to listen to her patiently. The stuttering disappeared within a few weeks.

About a year later, Nancy and a little playmate, a three-year-old boy, were found by Nancy's mother with their genitals exposed and inspecting each other. The mother, even though horrified at first, acquired sufficient self-control to avoid dramatics: with better supervision, the incident was not repeated, probably also because the children's curiosity had already been fully satisfied.

Nancy, at four and a half years, was a well behaved child, who ate and slept well, played well with other children, and had no temper outbursts of any kind. The contact with the clinic and excellent rapport with the social worker helped not only the child but also her parents, especially the mother.

FEAR AND ANXIETY. The normal, well-trained child is not fearful. He has learned to recognize real dangers and to avoid them cautiously. Fear of imaginary perils is acquired through experience, education and parental example. A child's fear of thunderstorms can almost invariably be traced to the mother or an aunt or grandmother in the house. The custom of frightening children into obedience by shutting them in dark closets or threatening them with the ragman or policeman is a frequent source of unjustified fears, the commonest among which are fear of the dark, pet animals, "ghosts," sickness and death, kidnapers, and strangers. The treatment is directed toward the correction of faulty notions and practices, such as fostering the child's apprehensions by taking him into the mother's bed or leaving a light on in his room during the night. Where there is real justification for the fears, special measures must be taken to remove the disturbing factor from the child or the child from the disturbing factors.

Anxiety attacks occur mostly in the evening or at night and are characterized by sudden terror, palpitations, and acute fear of death. They often begin after an operation, especially one with ether anesthesia. The treatment calls for a good knowledge of the patient and his environment and is governed by the specific factors involved in the individual case.

Fear reactions in a nine-year-old girl, caused by the pranks of a neighborhood bully.

Mildred was brought to the clinic on March 18, 1931, at the age of nine years because of intense fear for which her parents had no explanation.

Mildred was in good physical condition, except for slight undernutrition. At nine years and one month, she had a mental age of nine years and eight months, and an I.Q. of 106.

It was learned that Mildred was the older of two children of stable parents. She developed normally and went through whooping cough at one year, scarlet fever at six years, and tonsillectomy at seven years without any difficulties or complications. She got along well at home with her parents and her brother, and at school with her teachers and classmates. A marked change in her behavior began in the autumn of 1930, when Mildred was eight and a half years old. She became restless, cross, irritable, and extremely fearful. She lost her appetite, presented a feeding problem, was wakened by the least noise at night, cried easily, would not go out of the house to play with other children, often refused to go to school, and her work became so unsatisfactory that she was not promoted at the end of the term. All this was in marked contrast to her previous attitudes and performances. She complained of pain in her neck and burning of her eyes. She was an utterly unhappy child. Neither the parents nor the teachers could explain the child's reactions and Mildred herself, when asked any questions, would break down and cry.

Mildred was given an opportunity to talk about herself and her fears. It was learned from the child that her difficulties had begun when a "bad boy" moved into the neighborhood, who delighted in playing pranks on her and scaring and threatening her. One evening, when she came home from her music lesson, he suddenly jumped at her from a dark alley, grabbed her new hat and ran away with it, then dropped it in a mud puddle and trampled on it. He threatened to beat her up if she would tell anyone of what had happened. There were also unmistakable obscene implications in his threats. After that, he considered her his regular prey, noticing that she was afraid to complain about him.

The best plan would have been to arrange for psychiatric examination and treatment of the bully. But he came from a family of which coöperation could not be expected. But the boy, who was a coward at heart, was called to the school principal's office, confronted with Mildred, and given a warning. From that time, he left Mildred alone. Mildren's fear reactions and the lack of appetite, restless sleep, crying, and crossness, all of which were the results of her fearful preoccupations, disappeared overnight. She again went out to play normally and her school work improved quickly.

Anxiety attacks with fear of death, mistaken for heart disease, in a 12-year-old girl. Margaret was brought to the clinic upon the recommendation of her family physician, with the complaint that she had daily attacks of shortness of breath, palpitations, and fear of death.

She was given a thorough physical examination and was found to be essentially healthy. There was not the slightest evidence of heart disease or any other ailment that the parents feared might be responsible for her condition. She was given a psychometric test which proved her to be of average intelligence.

Her attacks had the following background: Margaret had always been treated as a "delicate child" who tired easily, wet her bed until the age of 11 years, was fussy about her food, and was spoiled by her grandmother. In May, 1934, toward the end of the school term, she worried about the possibility of failure in promotion and became sensitive, irritable and excitable. A physician advised tonsillectomy, which was performed under ether on July 10. She dreaded the idea of "being put to sleep" and wondered whether people ever failed to wake up from the effects of the anesthetic. All went well for a month, except that she was greatly disappointed that, being a "convalescent," she could not visit her grandmother as she had done regularly every summer during the school holidays. On August 10, her stepfather remarked that it was exactly a month after the operation which seemed to have a wonderful effect on Margaret. On the same day, her mother did not give her the requested permission to go to the library, which precipitated a regular temper tantrum. About 20 minutes later, the child suddenly felt as if her knees were giving away, ran to the bathroom, threw cold water on her face, and asked for ammonia. Her mother became alarmed, put Margaret to bed, summoned her husband from his office, and a doctor was called. The doctor said the pulse beat so fast he could hardly count it and that the child had a serious "heart condition." The frightened parents called in three more physicians who hurled at them the "diagnoses" of valvular disease, paroxysmal tachycardia, and possibility of adrenal tumor, all in Margaret's presence. She was kept in bed for two months, was not allowed even to turn over in her bed alone, received high enemas, ice applications to her chest, and was given digitalis, quinidine, thyroid, iodine, arsenic, luminal, sedatol, and bromides. In spite of all this, she had more and more attacks in which she had palpitations, complained of shortness of breath and pain on the slightest touch anywhere, had "smothering feelings," could not stand any noise about her, and was afraid that she was going to die. Her condition became so bad that she had as many as three or four attacks daily, usually toward the evening before she went to sleep. In the intervals she thought of herself as a desperately sick girl whose days were numbered.

Margaret was the younger of two girls. Her father was an irresponsible man, the "black sheep" of a wealthy family, a fact, which his wife did not discover until after the wedding. They had met when she was not quite 16 and he a soldier in the U.S. Army during the World War. He gave her two children but never even thought of supporting his family. After five years of married life, when Margaret was one year old, her mother finally left her husband, went to work, and had her children raised by her parents on a North Carolina farm. The father disappeared and was never heard of since then. When Margaret was six years old, her mother remarried and took the children to live with her in Washington, D.C. The stepfather was a stable, good-natured, and intelligent accountant whom both girls fondly accepted as a father. Margaret's mother, ever since her disappointment with her first marriage, was "very nervous all the time, got choky when she spoke, had to stop and swallow, sometimes got a down and out feeling as if something terrible was going to happen, felt shaky in her knees and inside." Margaret's sister, Dorothy, between 11 and 13 years of age, went through a period of "nervousness," when she would not eat nor feed herself, shook her head, chewed on her clothes, and grated her teeth in her sleep.

The nature of the difficulty was discussed with Margaret and her mother and stepfather. For the first time since Margaret's first attack, the parents heaved a deep sigh of relief upon learning that the child was not an invalid nor doomed to be an invalid. The child herself received the news with a great deal of joy. All medication was to be discarded right then and there. She was no longer to stay in bed nor to be treated as a sick child. She was, after a few days of gradual adaptation to normal life, to return to school and participate in the games and recreations of her friends and classmates, both of which things she was anxious to do. At the same time, better management of her feeding was discussed in detail with her parents and herself. Her mother was to go to the school and work out a plan with the teacher to help this normally intelligent girl to "catch up" with the class. Both Margaret and her parents coöperated splendidly. She has had no more anxiety attacks since she left the office.

THINKING DIFFICULTIES. Children are often referred for psychiatric examination with the complaints of *inattention and lack of concentration.* This difficulty may be due to a variety of factors. Children who do not see or hear well cannot "attend" and "concentrate" properly; most modern schools have special classes for the conservation of sight and hearing in which expert teachers do justice to the pupils' limitations. Any type of physical illness may affect the child's alertness; this is also true of overwork with inadequate recreational opportunities. Intellectual retardation with insufficient grasp of that which is being taught is often mistaken for inattentiveness; appropriate grade adjustment will restore the attention and concentration by giving the child a comprehensible goal and modes of its pursuit which are commensurate with his learning capacity. Sometimes lack of interest in certain subjects or scholastic work in general may be responsible; we then must find the reasons for the child's lack of interest. Preoccupations are another common etiologic factor; they may have for their contents domestic excitement or unhappiness, sex fancies in older children, daydreams and, in rare cases, obsessive thinking. This type of behavior calls for a thorough study of the child and his environment, collaboration with him, his family, and his school teachers, and an adjustment which would tend to straighten out the difficulties of the home situation and to lead the child's interests and abilities into channels of organized and supervised activities.

ANTISOCIAL BEHAVIOR. The commonest forms of children's antisocial behavior are disobedience, lying, stealing, destructiveness, cruelty, truancy from school, and running away from home.

Several factors may be involved in the etiology of stealing: lack of early training regarding property rights, loose social standards in the home, intellectual inadequacy with inability to grasp the concept of individual ownership, the desire of an unpopular child to gain friendship and recognition through distribution of gifts among the playmates, spite, jealousy, and vindictiveness. The treatment of the stealing child depends a great deal on the motives, the child's personality, and the nature of the environment. Detailed readjustment and re-education of the child, work with the adults who are active in his management, and frequent follow-up contacts are essential therapeutic steps.

DISOBEDIENCE. This may be the result of parental inconsistency based on thoughtlessness or moodiness, dissension between the parents about child training in general, excessive leniency, undue sternness, or the unreasonableness of the orders given. Almost every child goes through a *period of resistance* or negativism during the third or fourth year of life; this period requires especially judicious management.

LYING. Lying mostly originates in three types of situations: self-defense, imitation of adult behavior, and the desire to receive the attention and admiration of playmates.

TRUANCY. Truancy is based on dislike of school because of intellectual difficulties, the fear of being punished, berated, or ridiculed before the whole class, the influence of playmates, and parental attitudes which encourage frequent absences from school. Sometimes dire necessity, such as inability to provide proper clothing, forces poor parents to keep their children at home.

DESTRUCTIVENESS. This may be due to clumsiness, impatience and haste, mechanical inadequacy, curiosity, anger, revenge, jealousy, or cruelty. Cruelty must always be looked upon as a serious indication of personality and environmental difficulties, to be treated with no lesser care and expertness than one would treat pulmonary tuberculosis or rheumatic endocarditis.

RUNNING AWAY FROM HOME. This may be an emotional reaction to disagreeable domestic situations (unjust treatment, threatened severe punishment, brutality of an alcoholic father); it may be due to longing for adventure if home life is too monotonous and emotional stress is an added incentive. Vagabondage and aimless drifting is found among epileptic, hysterical, schizophrenic, postencephalitic, and feebleminded children and adolescents.

Thorough, objective, and unprejudiced information about the personalities, life histories and environmental backgrounds of the patients, knowledge of their difficulties, acquaintance with their assets, clear and logical recommendations made on the basis of this knowledge, and a sense of civic responsibility are the psychiatrist's important contributions to the understanding and treatment of juvenile delinquents and their delinquencies.

Stealing as spite reaction of an 11-year-old boy rejected by his mother.

Howard was taken by his parents to the Juvenile Court because of stealing and disobedience. The judge referred his case for psychiatric examination. The probation officer to whom the investigation of the situational background had been assigned obtained the following facts: Howard was the oldest of three children, all boys. His father had been raised very sternly by a rigid, tyrannical uncle who at the same time entertained high professional ambitions for him. He did very well in his studies indeed which were interrupted for a few months by typhoid fever and appendicitis when he was 18 years old. After one year at Cornell University, where he took up

Agriculture and Forestry, he joined the Marines (during World War I). He did not return to his studies, much to his uncle's dismay, and married, misrepresenting to his wife his financial status, his employment situation, and his university connections. Howard's mother was a milliner prior to her marriage. She came of a wealthy family and did not need to work, but she liked to bask in the glory of her financial independence, derived a great deal of satisfaction from associating with a group of Greenwich Village artists and wished to prepare herself for a vocal career. She had always been an emotionally unstable pseudo-intellectual, never quite able to maintain peace with her family excepting her father whom she adored. It was a great shock to her to discover soon after her marriage that her husband was not the settled, well-salaried and economically secure university graduate that he had told her he was. Her relatives suggested that she leave him. But she was pregnant at the time. Her father gave her money to have an abortion performed. This she did after her hope that her husband would at least try to dissuade her did not materialize. But he found a position which he told her was a permanent one and would enable them to establish an adequate home. She was happy until she learned that the position had been only a temporary one and she again found herself with child. Her parents refused to have anything to do with her and did not give her the money which she requested for another abortion. Howard was the result of this pregnancy. The mother had had to give up her millinery work, her associations, and her ambition to become a singer, she had lost her family's sympathies and backing, and was tied permanently to the father of her unwanted child. Her husband showed little affection toward the end of her pregnancy. Being used to the comforts of higher middle class home life, she found herself in dire distress and misery. All this culminated shortly after Howard's birth in an acute manic psychosis which lasted several weeks. Ever since her recovery she hated her child intensely. She sent him off to whichever relatives wanted to have him for as long as they wanted to keep him. When he was at home, he heard nothing but nagging and scolding, never a word of love or encouragement. The father was indifferent to the whole situation. When Howard was three years old, his brother, Walter, was born. The mother centered all her affection on Walter. Howard was considered as a reluctantly tolerated accessory, if he was considered at all. He made every effort imaginable to win his parents' praise by doing errands and assisting in household tasks but received no recognition for his helpfulness and was constantly "corrected" and chided because he might set a bad example for Walter and for George who arrived one year after Walter's birth.

Howard remained passive in this setting for about nine years. Then he began to rebel. He gave up trying to please his mother as an impossible task. He could expect no help from his father. His brothers, having their mother's full protection, teased him and helped to make life miserable for him. He decided to deserve his punishments and beatings to which he had become callous by that time. He neglected his scholastic work. He played truant occasionally. He stayed out late at night. His mother then locked the door and expected him to sleep on the porch glider regardless of the weather; he, in turn, went to neighbors who put him up in their home for the night; for this he was beaten severely and the neighbors were accused of interfering with his mother's disciplinary methods. Then Howard took to stealing. He never took anything at school, from stores, or from other people's houses. But he stole money from his mother. He stole all those items which were valued by her or by his brothers. Sometimes he sold them, sometimes he just threw them away. His mother triumphantly pointed out to her husband and anyone else who wanted to listen that her prophecies had come true, that she had noticed the boy's criminal propensities ever since he was an infant, and that there was nothing good in him. The more she threatened to have him "put away" in a reformatory, the more did

Howard steal. Finally his parents took him to the Juvenile Court and requested that he be committed to a correctional institution.

The situation was investigated. It took several weeks to ascertain the facts underlying Howard's stealing and other difficulties. He was given a physical examination and found to be healthy. He did not coöperate well at first. The psychiatrist and social worker seemed to him to be just two more people who would tell him how bad he was. In his psychometric test, he had an I.Q. of only 86. But his preoccupations with other things and his poor effort were so obvious that the test was repeated at a later time when his confidence had been gained; he then had an I.Q. of 95. Howard was disappointed that he was not sent to a reformatory; anything seemed to him to be better than his home. Though his mother had come with the hope of getting rid of him, it took a long time to obtain her consent for his placement in a boarding home. She could not understand how anyone could possibly be interested in this depraved delinquent boy. She would not permit her husband to assume even the slightest financial responsibility for the boarding home care. Her consent was finally secured after many difficulties and after Howard had acted as if he were in the process of setting fire to the house. Psychiatric examination and treatment had meanwhile been provided for herself. Howard was placed with an intelligent, stable, understanding, and sympathetic family. His first request that he made there was that they call him Robert instead of Howard; he did not even wish to be reminded of his own home by the mere sound of his own name. His stealing ceased promptly. His behavior since the day of his placement was most satisfactory. The new neighborhood necessitated transfer to another school where no one knew of his "badness"; he had done well in his behavior and studies since the day of the transfer. Howard came willingly to the clinic once every month. He was a much happier boy and, as he gained distance from his days of domestic misery, he even began to try to understand his parents better and to forgive them though he "cannot forget."

Sexual Disorders. Children's sexual interests and performances range from normal and legitimate curiosity, developing gradually and common to all youngsters who are intellectually capable of any inquisitiveness, to instances of coarse heterosexual and homosexual practices. Good example, wise supervision, and proper information are the best prophylactic measures against early sexual maladjustment. Adequate sex education requires frankness, tactfulness, and a large dose of common sense. The child's questions should be answered truthfully, yet in a form which is fully adapted to his age and degree of comprehension. Any intelligent child whose parents make a mystery and indecency of something natural and decently biologic is in danger of satisfying his curiosity in an undesirable manner (distorted or unnecessarily obscene information obtained from playmates, inspection and manual exploration of genitalia, "peeping," and even attempts at intercourse). Bad example, refusal of the parents to deal openly with the question, and sometimes criminal sexual assaults by irresponsible adolescents or adults are the main sources of sex delinquency in children. Feebleminded girls must be guarded with particular caution because of their lack of judgment, easy suggestibility, and inability to appraise the possible consequences.

MASTURBATION. There are few issues more misunderstood or more unwisely managed than the problem of masturbation. Quack literature, the traditional attitude handed down from generation to generation, and even physicians' misconceptions have set forth false ideas concerning this practice, giving rise to the belief that it leads to degeneracy, nervous disorders and insanity along with a host of other dire possibilities. There is no evidence whatever that such sequels occur. Masturbation is not at all uncommon. Inquiries made by M. J. Exner and K. B. Davis have shown that between 60 and 90 per cent of college trained men and women remember having indulged in this habit in their early years. The treatment of masturbating children must begin with the remedy of all local disorders in the region of the genitalia. The clothes should be fitting. Excessive fondling and excitation on the part of the parents, siblings or servants should be discouraged. Emotional balance, physical hygiene, and healthy sleeping arrangements should be instituted in the home. Mechanical restraint is an unnecessary hardship and often useless because it is aimed at the habit and not at the child. Beating, shaming, nagging, castration threats, pleading and bribing should be discontinued. The child should receive adequate sex information commensurate with his age, grasp, and degree of curiosity. He should not be put to bed before he is sleepy and ready to retire, nor should he be permitted to remain in bed unoccupied after he wakes in the morning. Most important is the need of enlightening the child and his parents about the nature of the act. Current faulty notions must be corrected. The terrifying anticipation of impending ruin as a result of the habit makes life miserable for the child and his family and must be radically removed. Much alarm and worry, much morbid self-observation, many deep-rooted personality disorders could be prevented or alleviated if such dangerous superstitions, much more harmful than the habit itself, could be eliminated as soon as possible. A healthy program of work, recreation, association with coevals, and sleep, should be arranged and the child should be reasonably and unobtrusively supervised. Supervision, however, is something altogether different from spying upon the child and expecting him to masturbate *a priori*. He should not be given an opportunity to *sense* an atmosphere of fear, suspicion, or hostility.

Masturbation in an eight-year-old girl of superior intelligence with unsound ideas about the consequences.

Helen was brought to the clinic on April 16, 1932, with the complaint of masturbation which had been practiced for about four years; her mother also reported frequent nightmares, one instance of sleepwalking, headaches, fear of the dark, and inability to get along well with other children. Her parents were alarmed over her masturbation which had become the source of daily agitations: "We have punished her for it, whipped her, made her do without things, promised to pay her if she didn't do it, told her that it will give her trouble later, that she will suffer in later life."

Upon examination, Helen was found to be healthy, except for refractive error, functional systolic murmur, and mild vaginitis. At eight years and eight months, she had a mental age of eleven years and four months; her I.Q. was 131. She had the vocabulary of a 14-year-old child. She gave expression to many fears and worries which were obviously reflections and elaborations of her parents' dire prophecies about the results of her masturbation. She feared that at the age of puberty she would have to have her face lifted because of the effects on her physiognomy; that she would become feebleminded and have idiotic children; that she would have to undergo a gynecological operation. She kept worrying about the quality of her scholastic work and watching for the first signs of intellectual deterioration in herself. In consequence, her work really did suffer because of her constant self-consciousness and preoccupations.

Helen was the older of two children of a United States Army captain. Her father was a calm and stable man. Her mother, a former school teacher, had some mild personality difficulties at the time of her marriage but adjusted well in the economic security of military life. Helen's brother was a healthy boy of five years. Helen was born in Minnesota. Her father was then transferred to Georgia, then to Texas, then to China, then to Maryland, and then again to Georgia where he expected a new order to leave for an unknown destination.

It was learned that her masturbation had started while she was in China. Her father was on duty during most of the day and her mother was engaged in social functions. She was left alone with a native servant whose language she did not quite understand. In her solitude she discovered the pleasures of auto-eroticism and soon she began to indulge almost continually. Her parents' consternation, scolding, punishing, attempts at bribing, and warnings about her future made her irritable, produced occasional temper tantrums, and helped her to develop fear reactions and nightmares. A physician's assurance that she would "outgrow" the habit and prescription of a sedative gave them not the slightest satisfaction. When they left China, the habit had assumed almost the character of a compulsion. There was a slight improvement when they came to Maryland and Helen acquired a few friends at the price of frequent gifts; she had no experience in playing with other children and had to buy the companionship of coevals in order to get them to play with her. She had hardly begun to feel at home in her new environment when, at the end of a year, her father was transferred to a Georgia post. Helen was very unhappy about the disruption of her new friendships. She kept writing letters and sending gifts to the little girls in Maryland but received at best a short card of thanks. She felt that it was useless to look for new friends because of the probability of further transfers, and again masturbated excessively.

Her refractive error was treated with glasses, and her headaches disappeared. Her vaginitis was treated. A radical revision of the unsound ideas about the consequences of masturbation was brought about in Helen and her parents. The child's fears, no longer nourished by parental stimulation, were easily removed. Her high intelligence rating was emphasized as proof that she had not suffered mentally. She was to be given clothes which should not fit too tightly and thus produce local irritation of her genitalia. She was to be sent to bed when she was tired and sleepy and awakened early and made to get up immediately. All this was to be done without verbal or other reference to the habit. She was to be sufficiently and pleasantly occupied during the day. Upon the clinic's recommendation, the father's superiors arranged for his continuation at his Georgia post for several years. This gave Helen a sense of greater stability and worthwhileness of making new friends. She joined a group of Camp Fire Girls and soon adapted herself nicely to the other children. She was taught to develop a greater interest in her younger brother who was equally intelligent and old enough then to be a little companion. Her masturbation ceased within less than 24 hours, never to be resumed within the three years since she was first seen at the clinic. She was sent to camp every summer and enjoyed the experience. Her irritability and nightmares disappeared together with her masturbation.

Habitual Manipulation of Parts of the Body. Parents are often worried about their children's habits of deriving pleasure from activities, such as thumb sucking, nail biting, nose picking, ear pulling, scratching, hair pulling, and the like. Newspapers and even medical journals contain advertisements of all sorts of mechanical restraints or bitter tinctures to be applied to the hands to prevent their being conveyed to the mouth; their application introduces parental agitations (children rarely fail to offer resistance) and spite or guilt reactions on the part of the victims.

THUMB SUCKING. There is no cause for parental concern if a healthy and well-developed infant sucks his fingers. The significance of correcting the habit lies in the prevention of the child's carrying over into later years exquisitely infantile modes of reactivity with concomitant or resulting personality disorders. Mechanical restraint or application of bitter substances increases, instead of reducing, the problem by unduly centering the whole family's attention on the sucking, introducing an element of force, and usually ending in the child's return to the habit as soon as the restraint is removed. Punishment, nagging and threats should be avoided. The child should be kept pleasantly employed with toys which interest him and provide ample manual occupation. He is less apt to suck when playing with other children. Nursery schools are therefore decidedly helpful. If he is found with the finger in his mouth, it is advisable not to refer directly to the habit but to change the situation indirectly by offering him some toy or occupation which he is likely to accept. In every case an adequate program of personality and environmental adjustment is of paramount importance.

Thumb sucking in a six-year-old boy, fostered by maternal agitations.

Lester was first brought to the clinic on November 30, 1932, with the complaint of persistent thumb sucking since infancy, associated with scratching of his face with the other fingers of the same hand. His mother was obviously alarmed and disgusted. She had tried all the mechanical devices on the market, painted his thumbs with bitter substances, threatened to cut off his thumbs, refused to speak to him for days, scolded, nagged, bribed, and taken him to innumerable doctors (whose advice she ignored if it did not coincide with her own opinions). Lester was spoiled without mercy. If, on rare occasions, his mother did not comply immediately with his wishes, he went to his grandmother and, presto!, he had what he wanted.

He was found to be in good health. There was no evidence of spastic colon or any other physical disorder. Congenital strabismus had been corrected by an operation when he was five years old. His I.Q. was 100. Though he was coöperative, his general behavior showed a considerable degree of general immaturity.

Lester was the older of two children of highly intelligent, cultured, and economically well situated parents. His father was a calm and stable man. His mother, an only child, had herself been spoiled and treated inconsistently. She was a nurse before her marriage. His sister was a bright and healthy four-year-old girl. Lester was raised with a great deal of maternal oversolicitude. Early breath-holding spells were interpreted as certain evidence of "concussion of the brain," mild gastronomic upsets were considered as first indications of the "inheritance" of a maternal great-aunt's cancer, and failure to have the number of stools postulated by his mother led her to make the "diagnosis" of spastic colon which to her meant a serious and lifelong affliction.

His mother, after much argumentation on her part, was finally convinced that there was nothing wrong with Lester's body, that his early breath-holding spells were not organic cerebral convulsions as she had believed, that there was not the slightest trace of suspicion that he had inherited cancer, and that he did not have spastic colon. The domestic management and habit training of the child were discussed in detail with both parents and the grandmother. An attempt was made to alleviate the mother's alarm about Lester's thumb sucking and she was advised to discontinue the mechanical devices and application of bitter substances. The whole affair was talked over with the child, who was eager to coöperate. On their return visit, his mother was much less emotional but asserted that there had been no improvement in spite of her strict adherence to our recommendations. When Lester was seen alone, he kept waving his hands before the examiner; it was thus noticed that strips of adhesive tape had been applied to the thumbs and must have been removed shortly before coming to the office; Lester had been forbidden to say anything about it but managed to convey the message by attracting attention to his thumbs with the remnants of adhesive substance which apparently could not be washed off in a hurry. His mother was ashamed of her obvious dishonesty and never again resorted to similar tactics. Within less than a month, Lester ceased sucking his thumbs altogether. His mother became much more honest not only with the clinic but also with herself. Realizing that it was a little beyond her power to give up completely an attitude of six years' duration, she decided to enter Lester in a private boarding school. Lester did very well there, never sucked his thumbs, and became much more mature in every respect. He liked the school and enjoyed his home visits during the holidays.

NAIL BITING. Nail biting is often an expression of uneasiness and tenseness. It is one of several forms of motor discharge of inner tension. Experience shows that this habit is difficult to overcome. The treatment should begin with the removal of the causes of the tensions responsible for the origin and maintenance of the habit. Appeal to the child's pride is often a valuable therapeutic factor; the child is given a manicuring set and assumes the responsibilities of its regular use. Occupations and toys which really intrigue the child and healthy associations with other children are of essential assistance in the treatment.

Sleep Disorders. The commonest complaints are those of refusal to go to sleep at bedtime, restlessness during sleep, and waking up at night crying and demanding that the parents take the child into their bed. This behavior is often a part manifestation of a spoiled child reaction. Sometimes it is due to various fears, especially fear of the dark, robbers, or kidnapers. Restless sleepers are for the most part also overactive and easily excited during the day. The nocturnal fidgetiness appears as an attenuated continuation of the child's diurnal reaction tendencies. Therefore, the treatment, instead of immediately resorting to sedative and hypnotic drugs, must attack the factors and situations which have driven the child in the direction of hypermotility. We may find upon examination a general emotional and habit immaturity as the result of improper training, or the child may be under a heavy strain due to domestic or scholastic difficulties which call for adjustment. The occurrence of nightmares, night terrors, and sleepwalking indicates a study of the dream contents, the child's diurnal preoccupations and phantasies, the environmental constellation, physical condition, and any specific events or experiences that may have had a more or less direct bearing on the child's emotional difficulties responsible for the sleep disorder.

Eating Problems. Children's food capriciousness has been the crux of many parents and of all physicians who treat children. The so-called "nervous anorexia" may express itself in a variety of forms: refusal to eat practically all food; eating under certain conditions only (drinking water from a bottle only, having someone count or tell stories, taking food from a certain person or in a certain place only); eating small amounts at a time ("getting filled up too quickly"); making up between meals for food refused at meal time; eating too slowly; being "particular" about food (eating certain dishes only and refusing others).

Another type of eating problem, so-called *pica* or *perverted appetite*, may be of great significance for the development of the indulging child. The complaint centers around the fact that some children, usually in the first three years of life, eat everything they pick up, dirt, polish, ashes, paper, coal, hair, wool, cotton, gnaw paint off the furniture, and dig plaster out of the walls and put it into their mouths. Aside from the esthetic and educational implications, pica is one of the commonest factors in the causation of lead poisoning in children. For this reason and also because of the nutritional disturbances and secondary anemia which often result, the habit should never be treated lightly. Close supervision and adequate habit training should be instituted.

FEEDING PROBLEMS. Feeding problems usually arise in children of oversolicitous and overprotective parents. They may be associated with gagging or vomiting when food is forced into the child; this, in turn, adds to the parental consternation. The food capriciousness may be, more specifically, one of several manifestations of the contrariness of a spoiled child, it may be due to desire for attention, utilization of the mealtime for the purpose of dominating the household, self-defense against overfeeding by mothers who want their babies "nice and plump," and imitation of adult patterns. In addition, excitement, unhappiness, haste, and irregularity of meals are apt to decrease a child's appetite. Prophylaxis and treatment are based on the same principles: physical examination and remedy of any existing ailments including special allergic food idiosyncrasies if present; judicious management of any tendency to constipation; regularity of meals both as to time and place; appetizing and well-balanced food served in not too large quantities in clean containers on a clean table; knowledge of the quality and quantity of food which the average child is required to consume; teaching of good eating habits at the proper age; avoidance of oversolicitude and overindulgence; absence of haste; introduction of a brief period of rest between exciting play and the meal; giving no food between meals; desisting from quarrels and other emotional scenes at least in the child's presence; agreement between the parents as to his training;

removal of any domestic or scholastic strain from which the child may suffer; setting a good example at the table; and making the child feel that the parents' part consists largely in providing and preparing the food, whereas the consumption is his own concern not less than theirs.

Feeding difficulties with gagging and vomiting in a four-year-old girl, a spoiled only child, associated with enuresis, temper tantrums, and habitual constipation.

Florence was brought to the clinic by her mother on November 22, 1933, with the following complaint: "She does not eat. She does not eat vegetables, she does not eat meat. She goes spasmodically. She will eat nothing but oatmeal for weeks, then she'll go on toast. She eats very little candy, she loves dates, she loves pecans, the other nuts are too hard for her. She'll take milk at school (private kindergarten) but we can't induce her to take milk at home, only on her cereals. She takes her orange juice when she feels like it. She drinks plenty of water. I don't force her because forcing does not do her any good. She gags frequently if she takes anything into her mouth that she does not like. In intervals of about three or four times a year, she vomits violently. She used to vomit more frequently, about once a month. Maybe that was from an overloaded stomach." The child was forced to have afternoon naps; when, after a long struggle, she fell asleep, she slept from three to four hours and fought wildly when put to bed at night. She wet her bed every night (Mother: "I have whipped her for it but I could not break her; and I promised her almost everything under the sun to get her to stop it.") She had temper tantrums in which she "threw herself on the floor, stiffened herself out and screamed." Since earliest infancy, her bowels had been "kept open" by milk of magnesia, Castoria, and enemas, on the supposition that she was "chronically constipated." The grandmother, for reasons unknown to herself, insisted that the child has a "growth in her rectum." The two servants were virtually made slaves to Florence's whims.

Florence was the only child of hard-working, fairly well-to-do parents. Her father was 41, and her mother 35 years old at the time of her birth. Both had been married previously, and their first and childless matrimonies had been terminated by divorces. The father, who was the head of a prosperous and busy detective agency, was "extremely nervous and excitable" and devoted what little spare time he had to doting adoration of the child. The mother worked daily in her husband's office; she always complained of a "weak stomach" and vomited very frequently, sometimes every night for a whole month, but had "no time" to consult a physician. The care of the child was left largely to the maternal grandmother. The three adults spoiled Florence in every way imaginable.

The child had had a difficult start in life. She was born prematurely at eight months through cesarean section, was asphyctic for almost three days, had icterus neonatorum for a week, did not take nourishment well and was slow in gaining weight. When she was one year old, her mother had to undergo a sterilizing gynecological operation which made the parents realize that Florence would remain their only child.

Upon examination, Florence was found to be an essentially healthy child. Her mental age coincided exactly with her chronologic age of four years and two months. She coöperated well when away from her mother but was very trying, stubborn, willful, and had temper tantrums in her mother's presence. She was admitted to the hospital for a week, in order that better habit training might be instituted and taught to her parents and grandmother. During the first three days, her mother insisted on staying with her, with the result that the child ate poorly, vomited, had tantrums, wet her bed, and her bowels did not move. When her mother was finally persuaded to leave the child entirely to the care of the physicians and nurses, Florence's meals were put before her and she was left to feed herself. The first day she ate very poorly and cried on the slightest provocation. After that, she ate very much better, gained weight and partook well of vegetables and cereals that she had consistently refused at home. She was taken to the toilet after breakfast and her bowels moved adequately without the help of cathartics or enemas. At first she tended to cling to the nurses and would play with other children only when an adult sat down and supervised things. Later she began to play more spontaneously and seemed much less willful. She became very easy to manage and gave evidence that she would respond readily to habit training in a normal environment.

The parents and grandmother learned their lesson. When Florence went home, the hospital type of management was adhered to. The child ate normally, had regular bowel movements, and ceased to have tantrums and to wet her bed. Her family is very enthusiastic about the change which had taken place in the child (and in themselves). The mother, no longer worried about the child and induced to find suitable recreational outlets for herself and her husband, noticed great improvement in her own eating and her own vomiting disappeared.

Disorders of Speech and Reading. Speech disorders range from total lack of capacity for verbal symbolization in the lowest grade idiotic child to the hasty, cluttering speech of persons of sometimes very high intelligence.

Mutism. Mutism or the absence of articulate speech, is most frequently due to congenital or early acquired deafness; meningitis, scarlet fever, and typhoid are the main causes of deafness beginning in infancy and early childhood. Deaf mutes constitute about 0.6 to 0.7 per cent of the total population of the U.S.A. They can, and should, be trained in special schools or classes to acquire education commensurate with their age and intelligence, prepared for vocational adjustment, and taught how to read lips and articulate. Modern methods are tending to do away with sign language.

Delayed Acquisition of Speech. This occurs in retarded children but is also observed in children who are otherwise normal and well developed. One should never diagnose intellectual retardation on the basis of failure to articulate at the expected age only.

Faulty Articulation. Faulty articulation, so-called stammering, may be due to local disorders of the mouth and throat, intellectual retardation, or poor training with "baby talk." The local conditions must be straightened out, retarded children adjusted at school, the use of baby talk discontinued. In view of a widely believed popular notion, it is necessary to emphasize that "tongue-tie" is extremely rare and that indiscriminate "tongue clipping" to treat or prevent stammering is a barbarous atavism. In many of the larger cities, the schools provide special classes for adequate speech training of children with faulty articulation.

Stuttering. Stuttering is speech of a halting, hesitating nature, with repetition of the initial sounds of a word or sentence. Articulation and phonation are as a rule not impaired. Most stutterers experience no difficulties when they sing or whisper. It has been estimated that nearly a quarter of a million children in the United States are stutterers. Boys are much more frequently affected than girls; this is also true of the other types of speech disorders. In many children, stuttering is associated with early attempts to change their original left-handedness to the enforced use of the right hand. The treatment of stuttering is one of the most difficult tasks challenging the skill of the child psychiatrist. It requires a thorough study of the patient's personality and environment and of the onset and particular mode of the stuttering difficulty. The child and parents must be desensitized with regard to their alarm often shown considering notions of "heredity," "hopelessness," or "brain disease." The domestic atmosphere must be cleared of the habits of deploring and pitying the child in his presence, interrupting him impatiently, teasing, ridiculing, shaming, scolding, or even beating him. The child's self-confidence, which has often been shattered by nagging and unsuccessful methods of "breaking" him from his stuttering, must be restored by instilling optimism and making him sense an attitude of understanding, patience, calmness, and helpfulness.

Stuttering and headaches in a nine-year-old boy, son of a stern, tyrannical father himself a stutterer.

George was brought to the clinic on November 21, 1932, with the complaints of stuttering, headaches, restlessness, and poor progress at school. He had stuttered for six months; the father "tried to break him by making him stop," often using his fists or the razor strap as a means of emphasis. He was found to have infected frontal sinuses which explained his headaches. At nine years and four months, he had a mental age of ten years and six months, and an I.Q. of 113. He had been mildly enuretic until seven years of age. He was constantly contrasted to his disadvantage with his youngest sister: "She should be the boy and he the girl." He did not stutter in the least during the entire examination nor during a later interview in the playroom on the same day. He hopelessly declared that he was a bad boy and could never please his father, no matter how hard he tried.

George was the third of four children. His father, 45 years old, had had an unhappy childhood, being reared at first by a mother who was a "religious fanatic" and psychotic toward the end of her life and, after losing both parents at the age of six years, by a despotic, unrelenting, theologically unbridled foster-father. He was whipped brutally until one day in despair he beat up the man and was ordered off the place. After a short experience as a prize fighter, he married at 18 and settled down as fireman and engineer for the railroad. He was a quick-tempered man, went through an episode of two years' heavy drinking, had frequent headaches associated with a refractive error, stuttered occasionally, and was always very severe with his children, beating them unmercifully for the slightest misdemeanor. George's mother, also 45 years old, was a submissive person who accepted her husband's domination and even his scorn for the church in which she was raised (she was a Methodist, while, he, originally a Seventh Day Adventist, had come to identify religion with superstition and brutality because of his own life experiences). George's oldest sister, 25 years old, a meek girl, lefthanded, stuttered at 12 years for a period of six months; she reluctantly obeyed her father's prohibition to go out with young men. The second child, 16 years old, highly intelligent, in the second year at college, had chorea at 12; she was mistreated by her father because she had a will of her own and demanded the degree of freedom usually granted to decent girls of her age. The youngest child was a four-year-old girl who was treated inconsistently, mostly spoiled.

It was with great difficulty that the father, on the basis of his own early experiences, could be made to see the ill results apt to arise from excessive sternness and cruel enforcement of his perfectionistic demands. Once he had seen the point, he tried to coöperate as best as he could, with occasional relapses based on the great difficulty of changing completely the attitude of a lifetime. George's sinuses were treated in the Nose and Throat Department of our hospital. When he was brought back to the clinic on February 4, 1933, his conduct and scholastic performances had improved considerably. He had been promoted to a higher grade and moved from the lowest (third) to the highest group within his class. He had stuttered much less. The social worker took an active interest in the family, with the result that the father's attitude towards his oldest two girls became much more helpful and lenient. They were permitted to invite decent young men of nice families to come to their home. George's headaches became better and better in the course of the treatment. There were occasionaly relapses in his stuttering. In the summer of 1934, his parents sent him to visit relatives who treated him kindly. He has not stuttered at all since that time. His father still occasionally "hollers" at the children but, since the beatings have been discarded, they take it good-naturedly; they have come to like and respect him much more than they had when they dreaded his cruelty. The contrasting between George and his youngest sister had been discontinued. They are now a happy and congenial family.

SPECIFIC READING DISABILITY. Specific reading disability, dyslexia, or congenital word-blindness, is a condition which deserves to be known better than it generally is. There are normally intelligent children who cannot learn to read with the usual methods taught in our schools. Since reading is an essential part of the curriculum, the failure of these pupils is most disturbing and causes parents and teachers, if they do not understand the situation, to consider these children unfairly as "lazy," "dumb," or even "feebleminded." Profound personality difficulties are the inevitable result. The condition is much more frequent in boys than in girls and is very often associated with a history of enforced change of handedness. Special methods have been devised which make it possible to help the patients within a relatively short time to acquire adequate reading ability. The diagnosis is not difficult if one knows of the condition and of the typical type of errors in reading (reversal of d for b, was for saw, on for no, etc.; omissions, substitutions, skipping words or lines). Spelling and writing difficulties are often connected with the dyslexia.

Personality difficulties associated with specific reading disability in a nine-year-old boy.

Donald was brought to the clinic with the following complaint: "He rasps his throat and does not seem to be able to concentrate. The teachers have been complaining that he does not get along. His teachers think *something* is holding him back. For the last three years, he had been nervous and rasping his throat. Around that time, before he started to rasp, he was hit by a machine and cut up but not knocked unconscious. We do not know whether it had anything to do with it or not. We have had him to various places for a change. In school his mind seems to be wandering when the teacher talks. It's nerves or it's *something*. On some subjects he wants to talk all the time, especially guns and airplanes."

Upon examination, Donald was found to be healthy except for a very mild degree of conduction-type loss of hearing in his left ear, following a mastoid operation which he had undergone in July, 1932. Psychometric rating showed him to have an I.Q. of 96. He was slow and uncertain in his answers and seemed to lack confidence in his own ability to grasp things. At one time he remarked: "I seem sort of dumb. I get mixed up in a lot of things." He did not even have first-grade reading ability and was utterly helpless and hopeless when confronted with the second-grade reading test. In spite of this and of the fact that the nature of his handicap had not been known to his teachers, he had been pushed up to the third grade.

Donald was the only child of intelligent and ambitious parents. Though spoiled to a considerable extent, he offered no personality difficulties of any kind until he entered school. Even then he did nicely for a few months, but soon the teachers noticed what they called lack of concentration. Since he seemed healthy and not unintelligent, they as well as the parents began to look for *something* that could account for Donald's poor progress. A slight automobile accident which resulted in a few insignificant bruises conveniently supplied the parents with a possible cause. They had always looked forward to hearing of his good achievements at school. They had made great plans for his education. They had themselves been well educated and had excelled in their studies. When Donald continued to do poorly in some of his class work, they were frankly disappointed. They could not understand why their bright boy, whom they had taught to count and recite so well and who was so skillful with the use of his hands, could not accomplish the task of reading simple words. Donald himself started out with a good deal of effort. He could not understand himself. Trying again and again did not make things better. He became discouraged, accepted his parents' accusations of laziness as being deserved, came to think of himself as "dumb," and finally gave up. He really did not concentrate any longer because he did not think it worthwhile to concentrate. As a result, his progress in subjects other than reading also began to suffer. An additional difficulty was created by his "courtesy promotions," since more and more depended on the ability to read. His relatives began to question his intelligence. This added to the general disappointment. Donald was unhappy, tense, reverted to infantile habits, distressed the family by biting his finger nails, blinking his eyes, habitually clearing his throat, and wetting his bed occasionally. He was irritable, sensitive, and not less disappointed with himself than the others.

When his reading disability was discovered at the clinic, both Donald and his parents were made to know that he was a healthy and normally intelligent boy and that the *something* that they had been looking for consisted in his inability to read. Special tutoring by an expert teacher was provided. Donald's self-confidence and his family's belief in him was restored. His school teachers were given an understanding of the situation. Since he was originally right-handed and right-eyed, there was no handedness or eyedness problem that called for adjustment. His vision was good. His manual skill was held up to him and his parents as a decided asset. Within a few months, his reading ability was brought up to conform to the requirements of his chronologic age. His irritability, sensitiveness, habit of clearing the throat, bedwetting, and other difficulties disappeared quickly. Donald is now a normal, well-adjusted boy who does well in all his studies and whose regular promotions are well deserved.

The Minor Psychoses. This group comprises a large variety of personality disorders. Most of them (neurasthenia, psychasthenia, hysteria) have been dealt with in preceding chapters. We shall discuss here briefly only one type of reaction belonging to this group, hypochondriasis, because of its significance for the development of invalid tendencies in later life.

HYPOCHONDRIASIS. This is a chronic complaint habit. It may arise from a variety of sources. Imitation of observed adult patterns, the desire to retain privileges derived during a period of actual illness, unhappiness at home or at school, ill-treatment, overwork with no recreational outlets, solitary life, parental oversolicitude, feeling of insecurity, medical mismanagement, and fear of punishment may all contribute to the development of somatic complaint on a psychogenic basis. Inadequate handling may so fixate and make a permanent habit of the complaint attitude, that the feeling of sickness may seriously interfere with the child's adaptations to the demands of everyday life. He may then slide into *chronic invalidism* which will make him an unfit person for the necessary occupational and social adjustments. In every case, a thorough physical examination is indispensable. A study of the child's personality and environmental setting must follow. The treatment should begin with a frank discussion, devoid of professional terminology, explaining to the child and his parents the nature of the complaint. "Rest cures," placebos, or dodging the problem by merely calling it "nervousness" are strongly contraindicated. As far as possible, the specific causes of unhappiness, disappointment, or boredom should be remedied. Parental oversolicitude should be corrected and replaced by adequate methods of training. If an adult has furnished the complaint pattern, he himself should be examined and treated. The child should be made to learn through judicious home management and medical advice that the hypochondriac pains are an unhealthy and unprofitable expression of faulty adaptation. They should be substituted constructively by social and recreational outlets and utilization of the child's assets.

Hypochondriasis in a 10-year-old girl, following bronchopneumonia at two years.

Grace was the younger of two children of stable, well-adjusted parents. After serious illness in childhood (bronchopneumonia at two years), she was made the center of family solicitude and indulged so much that she became fully convinced that she was a sick child. The manifestations of her illness, reiterated hundreds of times by her elders, and observation of the symptoms of her father's gastric ulcer gave her ample material for the formation of ever new complaints. These were met by her parents and older brother with great anxiety, indiscriminate use of tonics and sedatives, tonsillectomy, periods of rest in bed, and subordination of the entire household to the whims of a supposedly sick girl. Grace presented a difficult feeding problem, liked certain foods only, disliked vegetables, and her mother, feeling that she must force nourishment into this "sickly and delicate" child, for years "nagged, coaxed, cajoled, punished, made promises, and prepared special dishes," with most unpleasant results. Grace had it in her power to keep the parents worried and practiced a "cough" which reminded them of her bronchopneumonia and made them her slaves. For fear that close observation during the day was not enough, she was made to sleep with her grandmother, who reported that she was a restless sleeper and grated her teeth at night.

Grace, when examined at the clinic in November, 1930, was found to be in good health and eight pounds underweight. At 10 and a half years of age, she had a mental age of 12 and a half years (I.Q. 117). Grace, pointing to the upper part of her abdomen, complained that she had a pain in her stomach which occurred mostly in school: "The harder the work is, the more pain I have. I have no appetite for candy or ice cream, only for chocolate, the good kind. Sometimes my brain goes flooie. My hands begin to shake when I write my arithmetic lesson." A doctor had told the parents that Grace might have chronic appendicitis; this, of course, did not tend to reduce their consternation.

It took several months to convince the parents that Grace was a healthy child. They came back again and again with requests for x-ray examinations. Finally, with the aid of Grace's school teacher and the social worker of the clinic, they realized the real facts of the situation. Meanwhile the child herself was offered incentives which gave her a better sort of satisfaction than that derived from her hypochondriacal complaints. She was given some little responsibilities in her classroom. She was made to join a Camp Fire Girl troop. She began to take part in children's plays arranged in her church. She complained less and less until at the age of 11 years she was entirely free from cough, stomach-ache, headache, shaking, or any other ailment, ate any kind of food well, and gained weight.

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